FUR AND GAME RESOURCES OF MANITOBA

BY

V. W. JACKSON

PROFESSOR OF BIOLOGY,

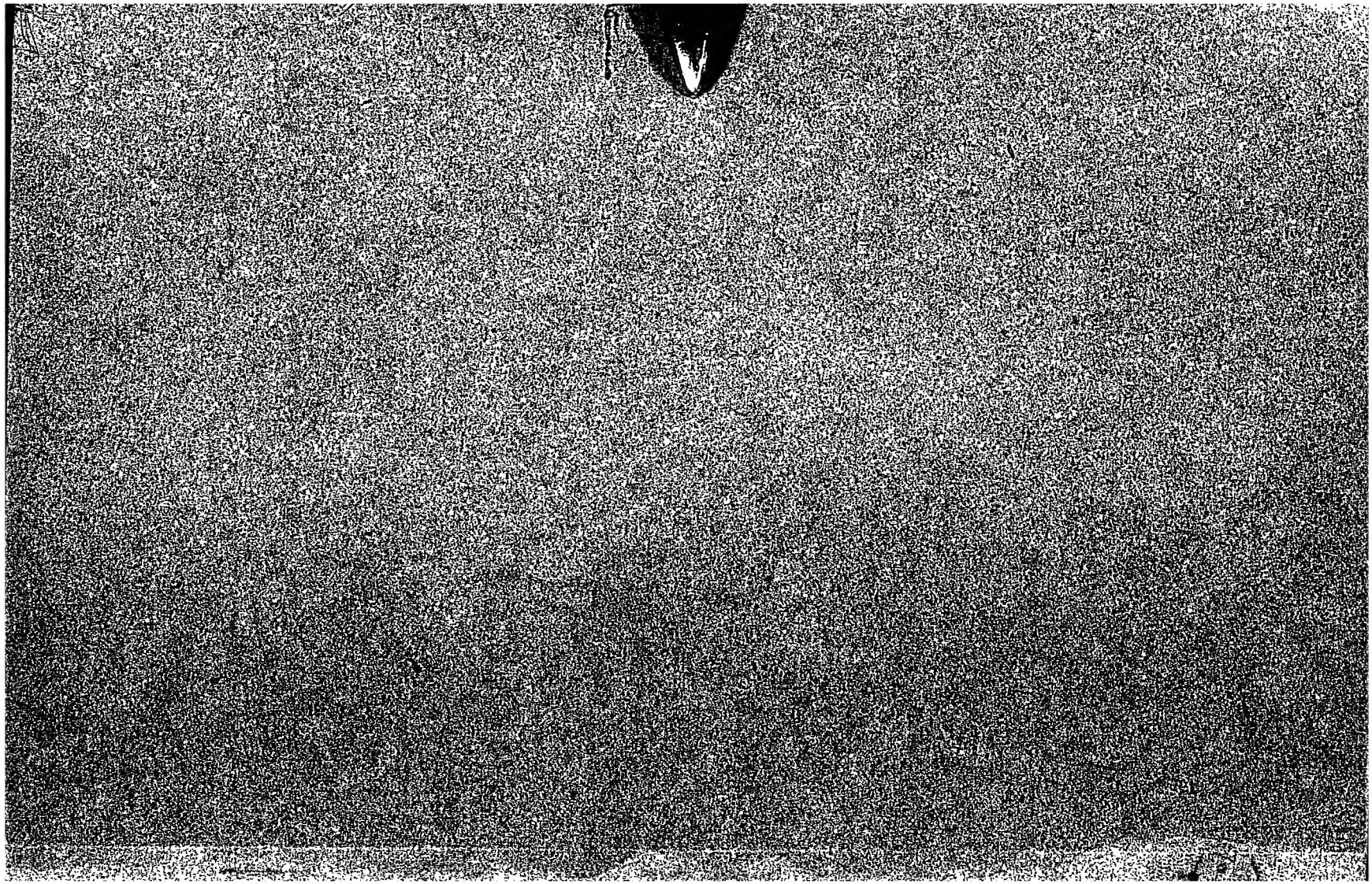
MANITOBA AGRICULTURAL COLLEGE

ISSUED AND DISTRIBUTED BY

INDUSTRIAL DEVELOPMENT BOARD OF MANITOBA

WINNIPEG

1928



Fur and Game Resources *of* Manitoba

BY

V. W. JACKSON

PROFESSOR OF BIOLOGY

MANITOBA AGRICULTURAL COLLEGE

ISSUED AND DISTRIBUTED BY

INDUSTRIAL DEVELOPMENT BOARD OF MANITOBA

WINNIPEG

1926

THE INDUSTRIAL DEVELOPMENT BOARD OF MANITOBA

OFFICERS

HON. JOHN BRACKEN ..... *Chairman*
W. H. CARTER ..... *Vice-Chairman*
F. M. BLACK ..... *Hon. Treasurer*
J. M. DAVIDSON ..... *Secretary*

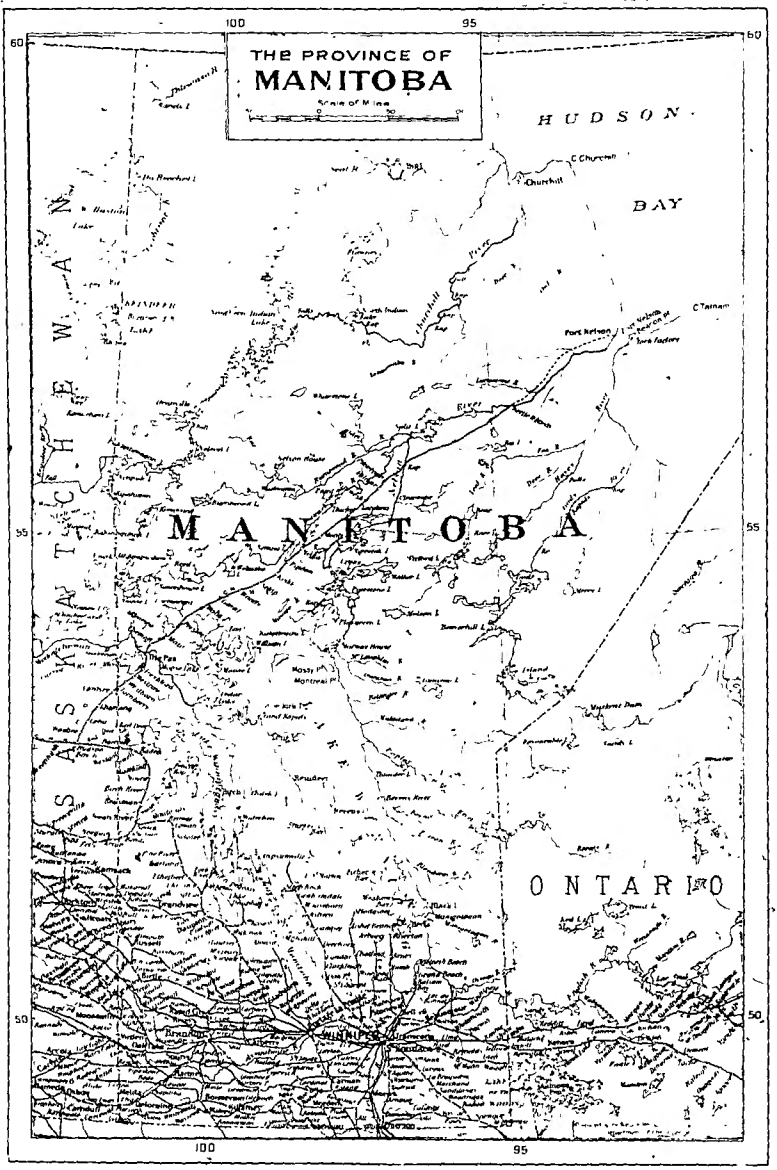
DIRECTORS

ALD. J. A. BARRY
P. E. BEACHBOARD
F. M. BLACK
ALLAN S. BOND
HON. JOHN BRACKEN
EDW. BRODERICK
W. H. CARTER
J. B. COYNE, K.C.
R. W. CRAIG, K.C.
W. P. DUTTON
D. R. FINKELSTEIN
H. FORD
C. J. HARDING
ALD. E. T. LEECH
H. B. LUMSDEN
W. G. MANDERS
F. H. MARSH
F. H. MARTIN
J. L. McBRIDE
J. B. McBRYDE
J. McEACHERN
A. W. McLIMONT
WALTER OWENS
W. P. RODGERS
E. S. RUSSENHOLT
ALD. R. J. SHORE
G. STEPHEN
R. V. SLAVIN
J. F. SWEETING
A. A. TISDALE
DR. R. C. WALLACE
MAYOR R. H. WEBB
A. H. WILLIAMSON
W. E. WRIGHT

TABLE OF CONTENTS

ILLUSTRATIONS

TRAPPING ON SEAL RIVER, LAT. 58, NORTHERN MANITOBA



Plate,I. Map of Manitoba

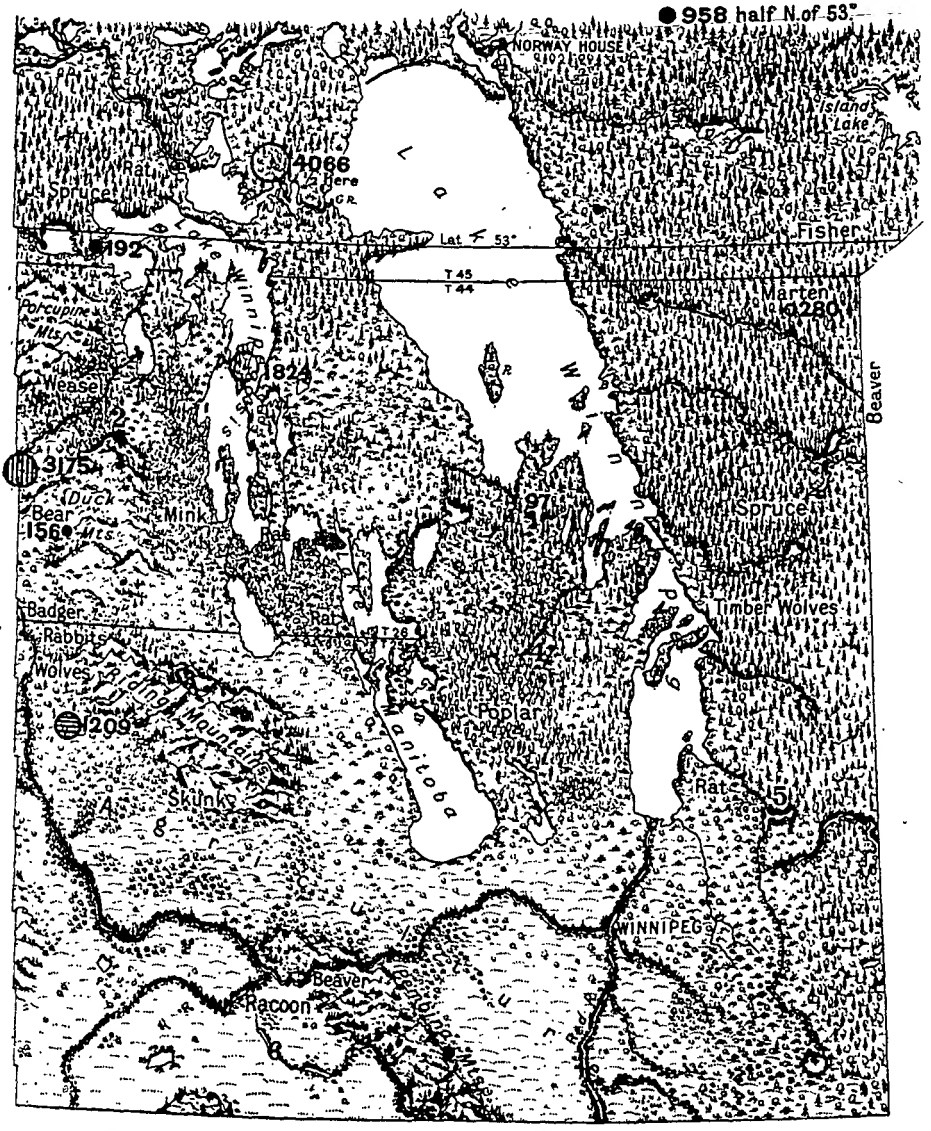
PREFACE

IT is twenty years since Ernest Thompson Seton, then naturalist to government of Manitoba, wrote the "Life Histories of Northern Animals," the first and only survey of the fur and game resources of the province. It is now advisable to take stock of our present day resources in order to see whither we are tending. That fur and game animals would retreat before settlement and even disappear from some parts of the country is to be expected, and yet the fur crop is of greater value today owing, of course, to the great increase in the value of fur. A three-million-dollar fur crop makes the total revenue of the early fur traders seem small indeed. A page from the diary of Sir John Franklin, 1819, at Cumberland House, gives an estimate of the fur and game of over a century ago, and when we consider that during that century over 3,000,000 beaver, 18,000,000 muskrat, 1,200,000 marten, 800,000 mink, 350,000 fox, and 160,000 otter have been taken from this province and with the exception of beaver and the muskrat, the annual supply remains about the same, we realize that the fur trade may be a permanent resource, if properly conserved.

This bulletin was prepared for the Natural Resources Committee of the Industrial Development Board, and the author wishes to express his appreciation of the co-operation of the Game Branch of the Provincial Department of Agriculture, and the Natural Resources Intelligence Service, Ottawa, and his indebtedness to Miss Cole of the Game Branch for summaries of license returns and access to complete records, and to Horace Halcrow, B. M. Stitt, and Sergt. Rose of The Pas; R. Davidson, Mile 137 H.B.R; P. W. Durand, and Wm. Campbell, of Norway House; Arthur Mercer, of Cross Lake; Mr. Quincy, of Nelson House; Mr. M. Finkelstein, President Fur Merchants' Association, Winnipeg, and Mr. Bartleman, of the Hudson Bay Company, for valuable information and assistance.

Winnipeg, November, 1925.

THE OLDEST OF INDUSTRIES: THE GETTING OF FURS



Bear..... Marten..... Wolf..... Badger.....

The Flora-Faunal Areas of Manitoba

The north-east half is typical Canadian coniferous flora-fauna; spruce-moose-caribou zone, the realm of the lynx, fisher and marten. The south-west half is transitional, between the true Canadian and the true prairie flora-fauna, where gopher, badger, coyote, hare, fox, long-tailed weasel, and sharp-tailed grouse from the western plains, meet the squirrels, chipmunks, ermines, pine marten, snow-shoe rabbit, red fox and ruffed-grouse from the eastern spruce zone, on the poplar covered prairies. The Porcupine, Duck and Riding Mountains (1, 2, 3) are old spruce islands rising a thousand feet above the poplar plains and forming retreats for the bear, moose and elk from the eastern spruce zone. A herd of 2,000 elk is preserved in the Riding Mountain Reserve (3), the largest herd of wapiti left in Canada.

PART I

THE FUR ANIMALS: DISTRIBUTION AND FAUNAL AREAS

It was the fur-bearing animal which led to the exploration and development of the north, and the fur-bearing animal is still the mainstay and support of the north. Despite the hunting and trapping of a century and a half, the fur trade of northern Manitoba has steadily increased in value, and with moderate conservation can continue as an important resource, as it has long exceeded that of Alaska.

Settlement naturally makes inroads upon the secret and silent ways of the four-footed, but the vastness of our hinterland defies intrusion, and the silent north of prowling, unseen fur-bearers, is much the same as Hendry, Hearne and McKenzie found it, in the eighteenth century. And those now resident in the north, through its challenge and its charm, wish it to remain so—that its fur wealth be not spent, but conserved as a perpetual resource, as nature would have it.

Nor is all the fur wealth north of the 53rd. Of the five thousand trappers' licenses issued annually, only three hundred are for the north. Eighty percent of the weasel, 64% of mink and marten, 88% of the wolves, 93% of the skunk, and over half the muskrats are now trapped south of Township 46. Thus over 5,000 farmers and others have a winter diversion, and a share in the three-million-dollar fur crop, and like fishing in our lakes, "It harmeth no one"; rather does it do good, for it keeps in check the enemies of live stock, the robbers of the poultry yard, and the pirates of the game world, as most of the fur-bearing animals are flesh eaters.

The province may be conveniently and naturally divided into six faunal areas:

1. The unsettled part, north of the 53rd or Township 46.
2. The sparsely settled part, north of T-25, or Dauphin line, and west of Lake Winnipegosis. (See map opposite.)
3. The more densely settled part between T-25 and the Assiniboine River, including the Riding Mountains.
4. The rough and sparsely settled, wooded area between the lakes (Interlake).
5. The low-lying region east of the Red River.
6. The more strictly agricultural region south of the Assiniboine.

Aside from northern Manitoba, which is all that newer portion from the 53rd to the 60th, and three times the area of the old province, the faunal regions are nearly equal in area, and therefore the relative number of fur-bearing animals in each is representative of their density and distribution. These num-

DISTRIBUTION OF ANIMALS TRAPPED IN MANITOBA

(According to Trappers' Returns, 1922-1924)

	Muskrat	Weasel	Mink	Skunk	Fox	Marten	Wolf	Lynx	Bear
North of 53rd	192,244	7,273	4,038	416	3,566	1,323	383	1,267	264
T. 25, 53rd	64,001	8,201	2,181	1,275	269	547	939	122	128
Assiniboine to T. 25	67,938	7,599	2,317	1,835	47	420	666	2	104
Interlake	56,156	3,427	857	932	174	634	457	105	65
East of Red River	21,808	4,095	1,421	712	108	253	526	66	24
S. of Assiniboine	14,592	4,873	1,448	938	90	359	244	3	40
Total	416,739	35,468	11,262	6,108	4,254	3,536	3,215	1,465	625

DISTRIBUTION OF FUR CATCH IN MANITOBA 1923-24

(According to Royalties and Traders' Returns)

	Muskrat	Weasel	Mink	Skunk	Fox	Marten	Lynx	Wolf
North of 53rd	192,244	12,831	9,114	918	12,159	1,545	3,863	383
T. 25, 53rd	69,511	14,530	4,455	2,808	917	638	413	939
Assiniboine to T. 25	97,938	13,423	5,000	4,335	155	490	.....	666
Interlake	77,455	6,089	2,142	2,223	589	739	351	457
East of Red River	35,993	7,711	3,550	1,717	401	295	224	526
S. of Assiniboine	14,592	8,529	3,576	2,248	280	359	.....	244
Total	467,733	63,112	27,837	13,349	14,501	4,066	4,851	3,215

Beaver at Work North of the Nelson River.

2

66 White Fox

Otter Lynx Otter Fisher Marten Wolf

3

1) Going-in in September - First Portage
2) Sixty-six White Fox in January near the Bay.
3) Coming-Out in February

bers were obtained by compiling the trapper's reports from each district for two years. This should give a fair average of numbers and distribution, as it is commonly assumed that about fifty percent of the animals are trapped.

FUR: KINDS, SEASONAL VALUE, AND THE TRADE

Fur-bearing animals are of two kinds, the soft, long-haired land animals—the fox, lynx, wolf, skunk, fisher, marten, mink and weasel—with best pelt during midwinter, and the smooth, short-haired water animals—the muskrat, beaver and otter—with best pelts in early spring.

Fur is a protection from the cold and, therefore, develops most during the coldest weather. The soft, September pelt has no guard hairs. These develop in November, and enhance the value of the fur many fold, as the seasonal value graphs show.* October "blue pelts" often bring only three to ten dollars, when the December prime pelts bring fifty to a hundred dollars. It is not only a great loss to trap unprime furs, it also gives the province a bad name in the fur market. Much of the $100,000 revenue from licenses and royalties, should, therefore, be spent on stopping early trapping. Too many trappers in a limited area make competition too keen, and "the early bird gets the worm." "A blue pelt is better than no pelt" they say, but this is bad for the trade, the trapper and the future. It takes five times as many pelts to make a living, the market is glutted, a good name sacrificed, and the future jeopardized. Thus fall trapping of muskrat had to be stopped to save the rat, the trade, and the name.

THE MUSKRAT

Whereas beaver was once the "big thing" in the fur trade, it has been reduced nearly to point of extinction, and muskrat has been the "king pin" of the fur industry for some time. The vast marsh land north of our lakes, known as Cedar, Moose and Saskarum Lakes, in reality the delta of the Saskatchewan, has been the great breeding ground of this prolific species. One million "rats" were trapped annually in this area twenty-five years ago, but unlimited trapping, fall, winter and spring has gradually reduced the catch, until last year, less than 20,000 were taken in this same area.‡ Nothing but protection will permit the rat to "come back" to its former numbers. Closing of fall trapping will help increase the value as well as the numbers and permitting only early spring trapping, say up to May 1st, would lessen encroachment upon the breeding season, and get better furs. The first brood is brought forth the last two weeks in May, and a second brood about the end of June. There are three to twelve in a litter, and so the increase is rapid, if protected. Disturbing the winter home is fatal as it lets the "air hole" freeze over and the

*See graph, p.12. ‡See graph, p.11.

rat smothers. No doubt millions perish this way in very severe winters. The muskrat builds a dome-shaped house of grass and reeds, with the entrance under water; six to ten in each house. This "air hole" must be kept open, otherwise they perish. A change in water level is vital to muskrats, and often the cause of their disappearance from a district. If the marsh freezes to the bottom, the muskrats starve.

In fur, habits and house, the muskrat is much like the beaver, a miniature beaver; but as the rat feeds upon roots under water, he does not have to store up a winter supply like the beaver.

These are the only fur-bearing animals, however, which are herbivorous or vegetarians, and not a part of the vicious circle. All the other fur-bearing animals are flesh-eaters, and, therefore, mutually destructive, each the enemy of the other, or feeding on common prey, and fluctuating with the prey.†

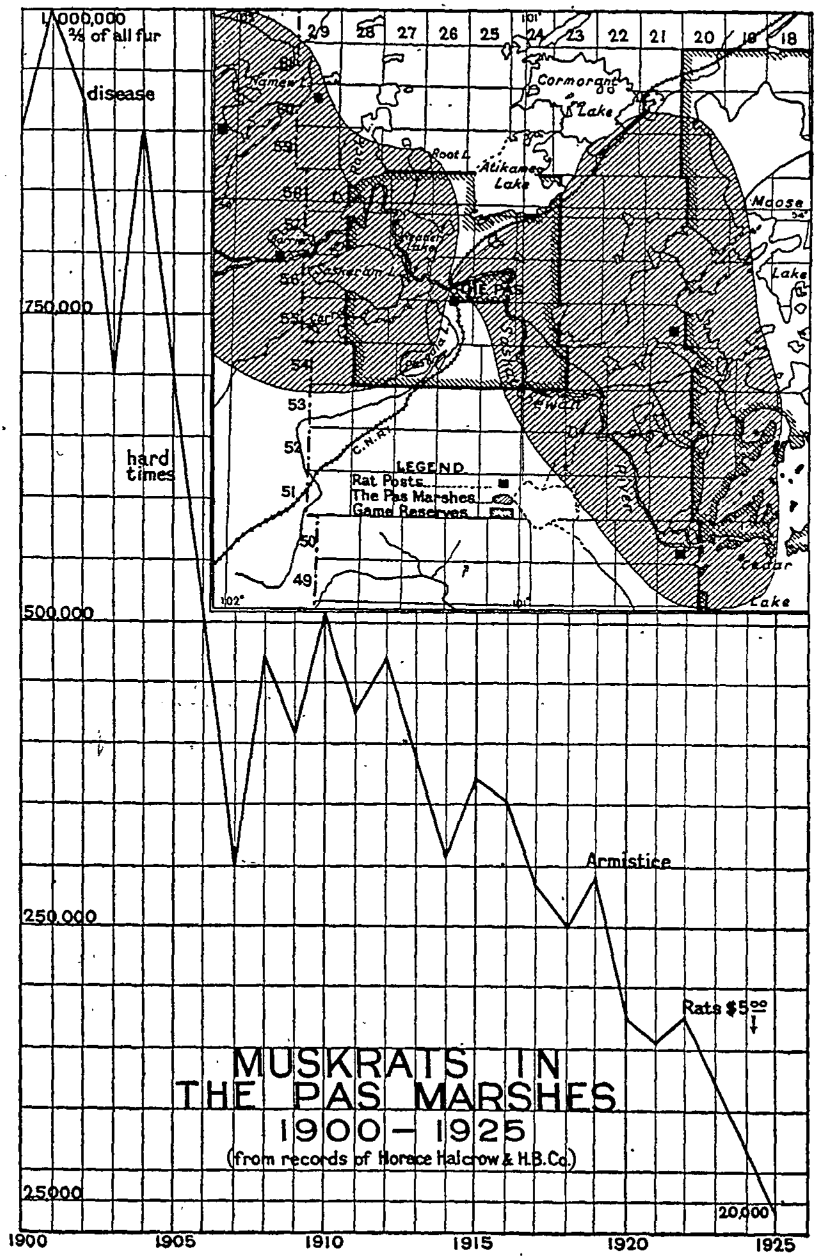
THE BEAVER

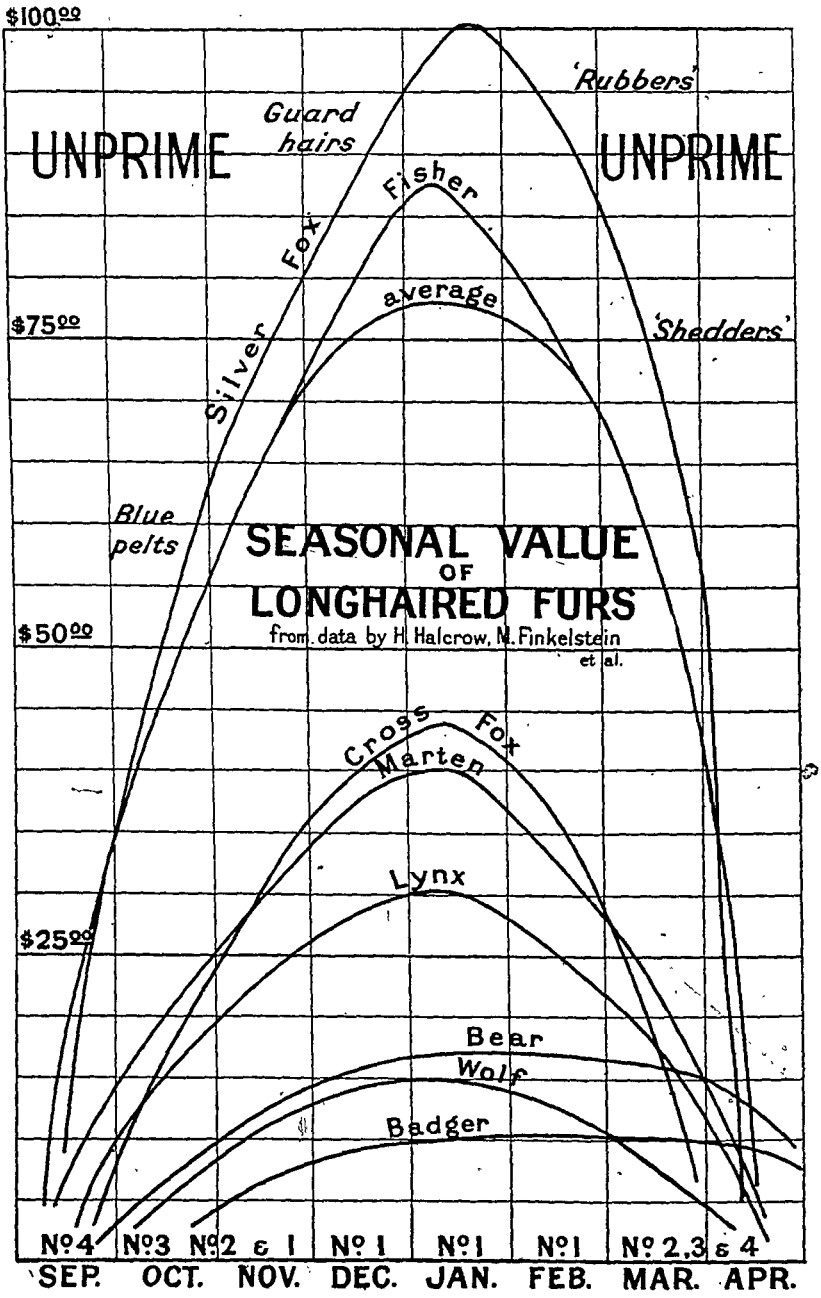
While originally the beaver was found all over the North American continent, settlement soon broke up its habitats, and the former millions were reduced to thousands. Prior to the Selkirk settlement, 200,000 beaver had been taken and Alexander Henry's fur returns for the Red River show an average of 1587 beaver a year for eight years (1800-1808), yet he abandoned the region in 1808 giving as a reason "the country being almost destitute of beaver and other fur." Albeit, this was more than the beaver catch of the whole province now. The original beaver population of the continent (1800) is estimated at 5,000,000 to 10,000,000, and the natural increase is 20%, yet ruthless destruction reduced the beaver catch from 1,000,000 in 1825 to 100,000 in 1900, (See graph p.35 for Manitoba decline). Whereas, beaver was the "big thing" in building up the early fur trade (one trapper sometimes bringing in 500 beaver), yet three years ago we had to have a closed season. With timely protection, beaver rapidly "come back," and in several areas along the Assiniboine, special permits to kill beaver (96 in 1923) have had to be issued to check the flooding of farm lands.

North of the 53rd, however, the beaver has been pretty well trapped out. The 15,000 catch of 1924 being between the Nelson and the Churchill, which is the northern limit of poplar and birch, and, therefore, the northern limit of the beaver. A five-year closed season might bring back the former numbers in other parts where poplar are more plentiful.

The Indians, to whom the beaver is meat and clothing, always leave three or more in each beaver house for breeding. A litter of 2 to 6 are born in May. In a month the young are eating bark. In two years they mate, and for life, and live 12 to 15 years. So the natural increase of the beaver is rapid, if protected.

†See graph, p. 19.


1,000,000
⅔ of all fur
disease
hard times
750,000
500,000
250,000
25000
Armistice
Rats $5.00
20,000
MUSKRATS IN THE PAS MARSHES
1900 – 1925
(from records of Horace Halcrow & H.B.Co.)
1900
1905
1910
1915
1920
1925
Cormorant Lake
Root L.
Atikameg Lake
Moose Lake
Cedar Lake
C.N.R.
LEGEND
Rat Posts
The Pas Marshes
Game Reserves


$100.00
$75.00
$50.00
$25.00
UNPRIME
Guard hairs
'Rubbers'
UNPRIME
Fisher
Fox
average
'Shedders'
Silver
Blue pelts
SEASONAL VALUE
OF
LONGHAIRED FURS
from data by H. Halcrow, N. Finkelstein et al.
Cross Fox
Marten
Lynx
Bear
Wolf
Badger
No 4
No 3
No 2 & 1
No 1
No 1
No 1
No 2, 3 & 4
SEP.
OCT.
NOV.
DEC.
JAN.
FEB.
MAR.
APR.

The fixed domicile and stay-at-home habits of the beaver make protection necessary. Other animals migrate when trappers encroach too heavily upon their domains, but the beaver seldom goes more than a mile from his domicile, and hence falls an easy prey to persistent trapping.

THE FUR FOXES

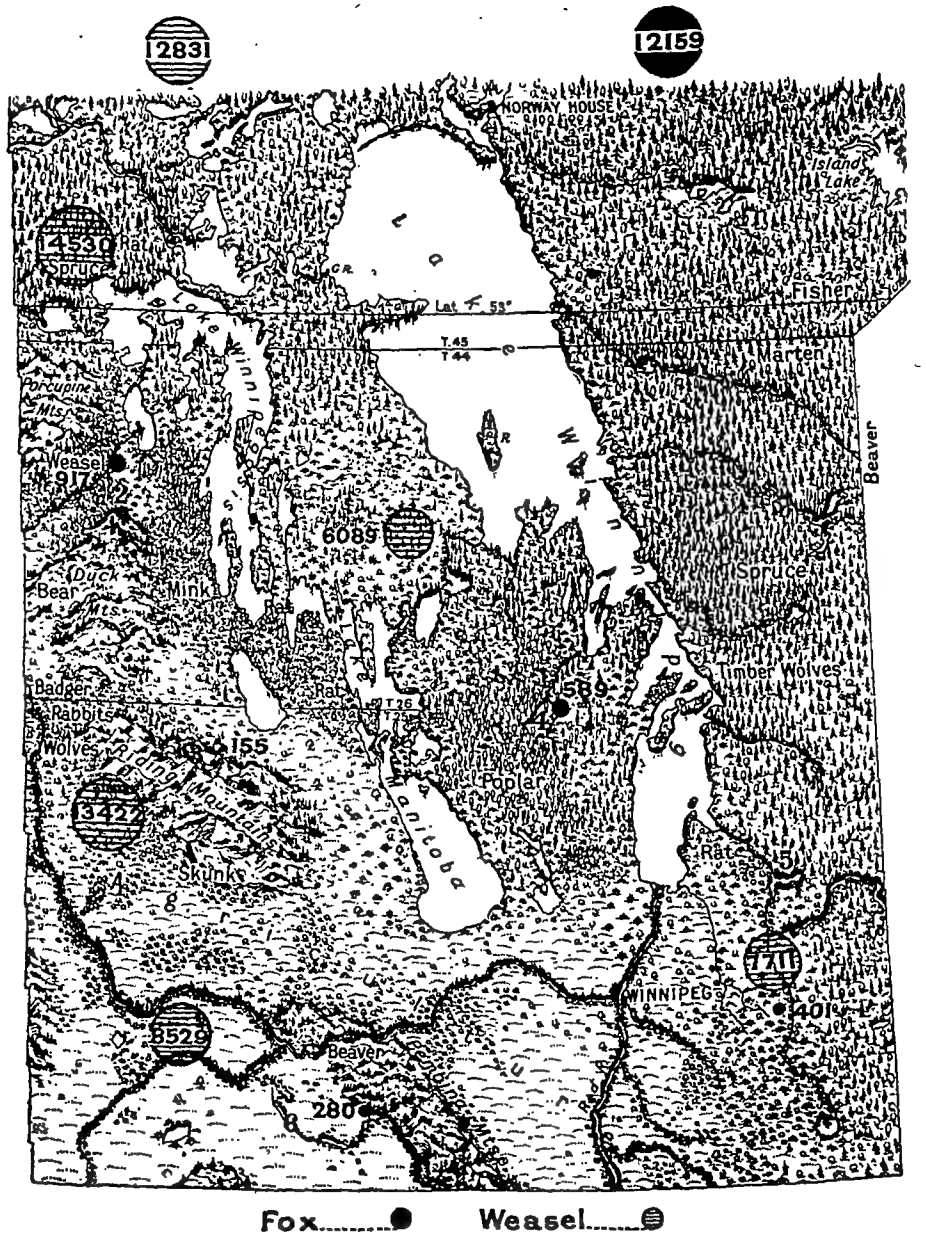
The type or dominant wild fox is red and three-quarters are of this color. The black, silver and cross are color phases due to hybridity and regional variation, the blue and white being arctic, and the cross fox being variegated silver with a dark cross down the back and across the shoulder, and not a cross-breed, any more than the others. All color phases than white may occur in one litter—2 reds, 3 cross, 2 blacks and a silver being reported in one litter. The black fox is more common in the lower Nelson region near the Bay, where perhaps a black race inbreeds. The stone fox is the spring phase of the arctic white. The blue fox is very rare, only seven on the record market of 1920, whereas there were 1,450 white, 3,070 red, 521 cross, and 151 silver, the latter averaging $207 a pelt and white only $39.

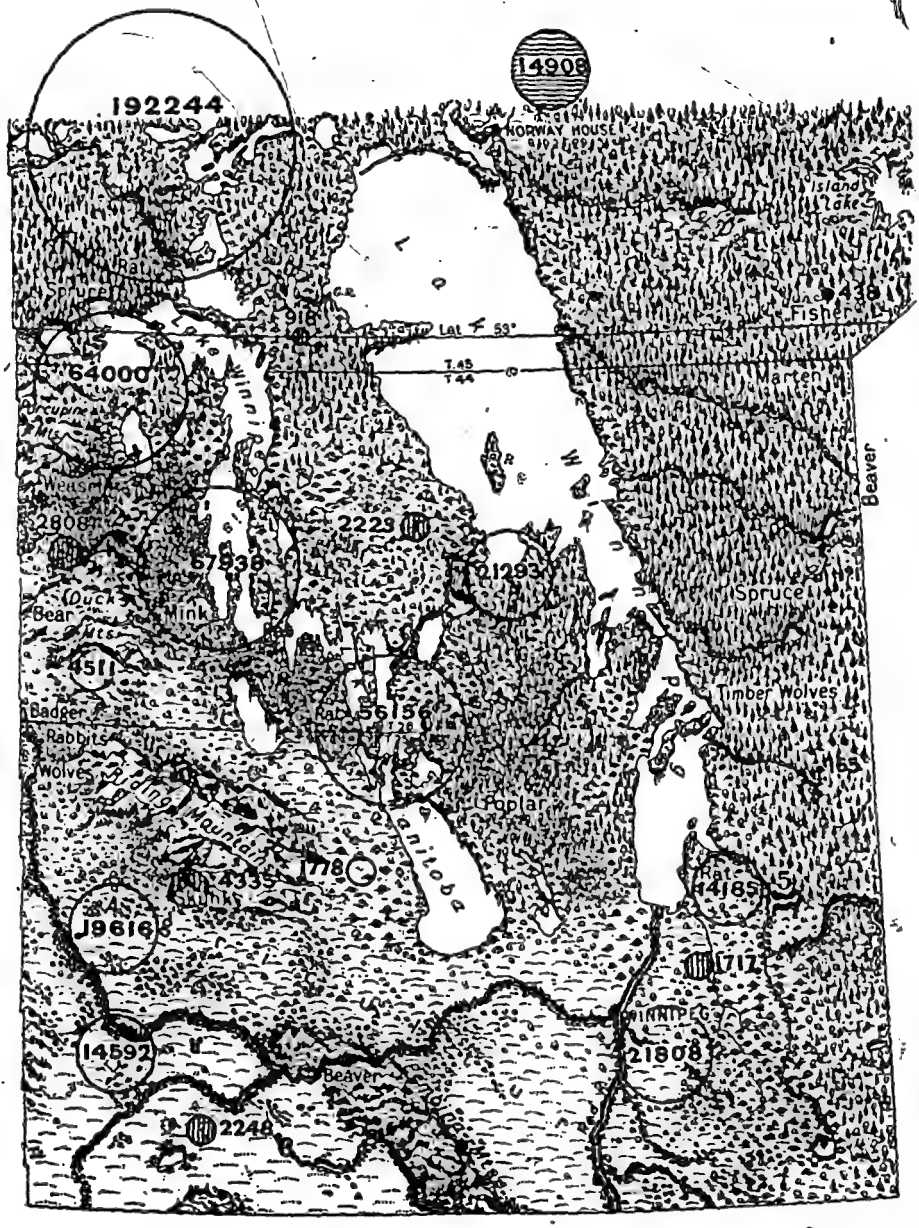
This was the year that fox was the most popular fur on the market and five times the above prices were obtained on the Montreal and New York markets. This naturally led to a run on fox and the annual catch increased from 5,230 in 1920 to 14,578 in 1924. According to Thompson Seton, there were only 5,000 foxes in Manitoba twenty-five years ago. It seems, therefore, that the fox has increased in numbers. The recent popularity of white fox has taken the trappers farther out nearer the Bay, where the arctic fox comes down on the ice and then runs inland, a hundred miles or more.

THE MARTEN AND THE FISHER

Unlike the beaver whose food limits it to streams, where poplar are near by, the marten and the fisher prefer the high and heavily-wooded, coniferous forest. The marten is often called the "pine marten," and, in the fur trade, wrongly called "Hudson Bay Sable." Although like the fisher or pekan in its cat-like habits and its habitat, and in its bushy tail and valuable fur as a neck-piece, it is much smaller and more numerous, usually moving about in clans of two or three families, whereas the fisher travels in solitude. In Manitoba the haunt of the fisher is around Island Lake, and east of Lake Winnipeg, where 95% are trapped. The marten is more common between the Nelson and the Churchill, where nearly half the marten are trapped.

The food habits of all flesh-eaters is much alike: a vicious circle, each preying upon another, but the mouse millions of the north is the tit-bit of all carnivores from bears to shrews and, to the marten and the fisher, it is the staff of life. The fox will follow a mouse track for miles. Rabbits and grouse are bigger


2831
12159
NORWAY HOUSE
Island Lake
14530
Spruce
Fisher
Lat. F. 53°
T.45
T.44
Marten
Porcupine Mts.
Weasel
Beaver
6089
Duck
Bear
Mink
Spruce
Timber Wolves
589
Badger
Rabbits
Wolves
Poplar
3422
Skunks
Rat
7711
WINNIPEG
401
3529
Beaver
280
Fox
Weasel



Rat..... Skunk..... Beaver..... Fisher.....

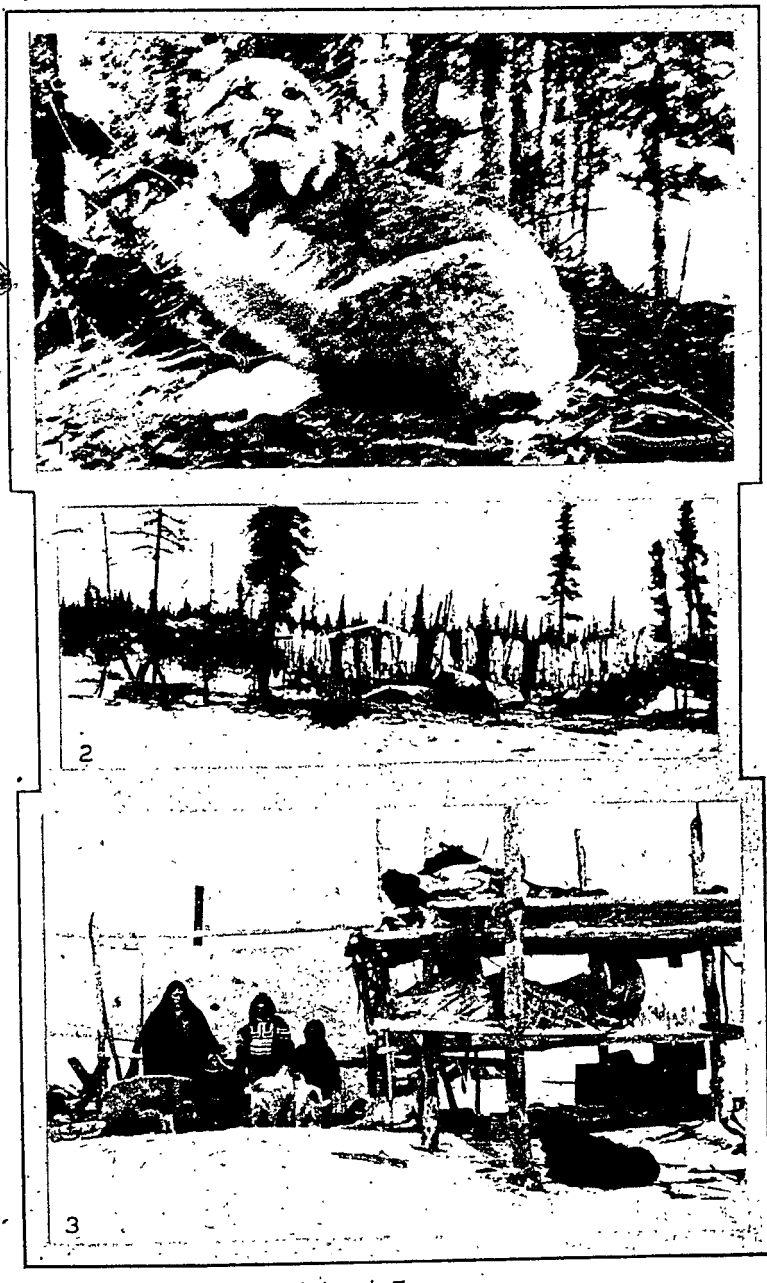
prey and may be preferred, but the ubiquitous mouse is the standby of most carnivores and, if all flesh is grass, then most fur is mouse.

The marten preys upon partridge, rabbits, squirrels, chipmunks, shrews, birds, eggs, frogs, toads, fish and insects, and its larger cousin the fisher, which sometimes weighs 12 to 15 pounds, will run down a fox, fight a raccoon, tree a porcupine, or even attack cub bears, and deer, which it has been known to bring down by clinging to the jugular vein. Its courage is unparalleled and its agility and thirst for blood is only exceeded by its slender cousin, the weasel. It is the terror of the trap-line, and the *bete noir* of the trapper, and the prized "black cat" of the trader. During the 85 years, 1821 to 1905, the Hudson's Bay Company got 377,338 fisher—an average of 4,439 a year for nearly a century, which average is still steadily maintained (3,976 for Canada, 1923), and the twenty-fold increase in value in the last 20 years has made fisher one of our most valuable furs. Twenty years ago marten was more valuable than fisher ($12 to $24) and seventeen times as many. Recently the fisher has sold as high as $90, but at the January Fur Auction, Winnipeg, 1926, the smaller pelts were in favor and the price receded.

In 1924 the marten and fisher trapped in Manitoba were 4,143 and 648 respectively, or seven marten to one fisher, and the total American catch (1920), 120,000 and 10,000, or twelve to one. So fisher are getting relatively scarce, the more so on account of the increasing value of the fur—$90 a pelt on the August Fur Auction, Winnipeg, 1925, and $345 a pelt was obtained on the Montreal Market, 1920, the high year in the fur trade.

RARE FURS OF THE WEASEL FAMILY

The weasel-mink-marten family also includes the otter, fisher, wolverine, skunk and badger, a group of scent bearing animals, with rarest and most expensive furs for their size. Russian sable and Japanese kolinsky are of this same family—Mustelidae, meaning "musk" or scent animals. Just as bears leave signals with their claws on the smooth bark of birch and poplar, and the wolves scent the trees along their trail, and fox scents its urine to mark its caches of food, so all of the weasel family have scent glands with which they leave signals and records of their wanderings. The mink and the skunk have so developed these scent glands that they can defend themselves with them, the mink scent being quite as offensive as the skunk, but normally the scent is for family information only, and the trapper takes full advantage of this and always carries his scent bag of natural baits—skunk and fish for fox, muskrat and fish for wolf, beaver castorium for lynx and beaver, and so forth. Every trapper has his own secret scents and prizes the scent glands as part of the catch. The beaver makes castorized mud-patties and leaves them on mounds and prominent places as a record of his presence,



(1) Canada Lynx in Trap
(2) Arctic Fox Near Hudson Bay
(3) Trading with Eskimo, Lake Nueltin

A GOOD COYOTE
Trapped, Pelted and Dressed on the Farm of William Collins, Pleasant Point, Manitoba

and the "musk bogs" or beaver playgrounds are heavily scented with castorium. So no wonder the trapper soon learns the art of scenting his bait.

THE SKUNK AND BADGER

These are the only diggers of the weasel family, and diggers are never in a hurry—slow and confident in the protection the mother earth affords. The skunk ranging over the whole continent has developed regional differences—the prairie skunk being the larger with a tail three inches longer, and tip black, and body four inches longer; the northern skunk having a more slender tail and tip white, and confined to the coniferous area east of Lake Winnipeg and north to the Hayes River. The larger prairie skunk is most plentiful around the Riding and Duck Mountains, where over half the skunk of the province are trapped. In 1924, 14,955 were trapped, and 10,676 in 1920, the price ranging from $2.00 to $3.50 per pelt. Thompson Seton says there were about 2,000 taken annually twenty years ago, or about one-fifth to one-eighth the present catch, so that this animal seems to be increasing with settlement, despite the fact that coyotes, foxes, badgers and owls take half the young and trappers half the remainder.

The badger is confined to the dry prairie or the region of the gophers, upon which it largely feeds. Over half are around the Riding and Duck Mountains, only a dozen being trapped east of the Red River, and 20 between the lakes. Twenty years ago the badger population of the province was estimated at 20,000, ten per section in places, but cultivation, destruction of gophers, trapping and poison have reduced the annual catch to a 1,000 or so. Badger hair is worth eighty-five dollars a pound, and used in making the best shaving brushes and in faking silver fox by anchoring in white badger hairs, and sold as "pointed fox."

THE WOLF AND THE COYOTE

The wolf, the coyote and the fox represent the destructive dog family, Canidae, with pointed muzzles, long legs, bushy tails and pointed ears. These destroyers of sheep and deer and raiders of poultry and game have long had a bounty on their heads and here the trapper functions in the well-being of agriculture and the welfare of other fur animals; upon which wolves and coyotes prey. The once dreaded timber wolf has been reduced by the hunter and trapper until they are no longer considered a menace, and very few reach the fur auction, although the pelts may be worth $25.

The gray wolf disappeared with the buffalo, and the timber wolf, once one-third of the wolf fur, is now only one in twenty, and the smaller coyote commands a better price, twenty times the price of twenty years ago, when about 1,000 a year were taken in the province. Now about 5,000 a year are taken and five years

ago 15,000. The pelt is always "cased" like fox and fisher and the pelt of the larger gray or timber wolf is sold "open" like the beaver.

Prime light-colored coyote pelts can be dyed or bleached and sold as blue or white fox.

THE LYNX

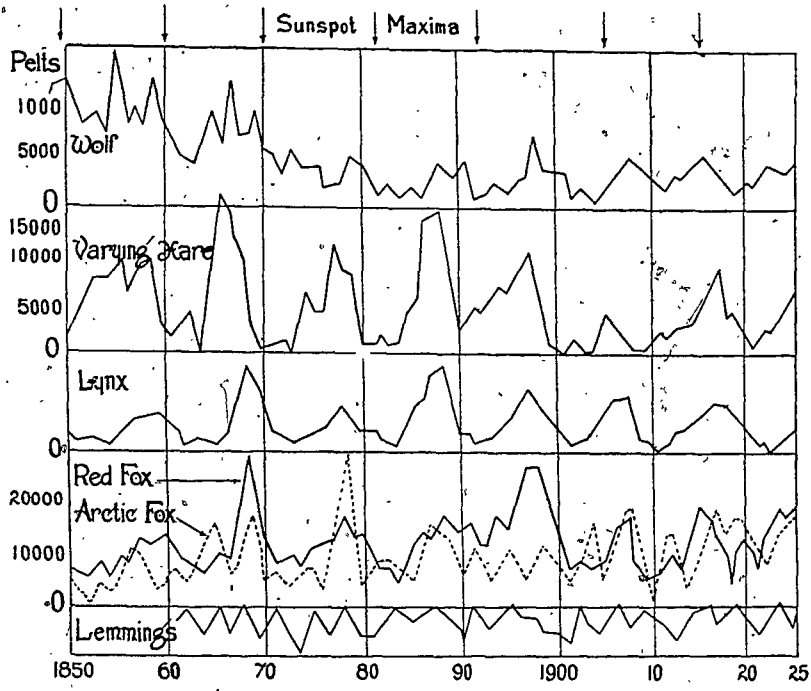
Lynx affords our only cat fur; fur of unusual deep, soft pelage, especially on the under side, a protection during the long hours of patient waiting in the cold snow for a passing rabbit. For the lynx is a cat in every way: solitary, stealthy, stalking its pray with extreme patience, waiting for hours to spring upon a grouse, a rabbit, a fox or even a deer, its large footpads giving it advantage in deep snow. Like the cat it fights best on its back with all fours, and the careful trapper never lets his trusty dog rush it, in the trap. The northern lynx is three to four feet long, and has very long legs. In good rabbit years the lynx becomes plentiful and a trapper may get fifty or more in a season. The fur is always in demand as the silky under fur makes excellent boas, and good pelts bring from $15 to $35, the northern pelts bringing five to ten times as much as the southern pelts. The Manitoba catch varies from 1,200 to 5,000 a year, fluctuating with the rabbits and mostly trapped north of the 55th, along the Churchill and Burntwood Rivers, west of Nelson House.

PERIODIC FLUCTUATIONS IN FUR-BEARING ANIMALS

Periodic fluctations in the fur catch can seldom be ascribed to the effects of trapping, but rather to natural causes, such as food supply, weather conditions and wide-spread epidemics. These go in cycles or waves of plenty and scarcity, of severity and salubrity, and the dependent animal varies accordingly. Herbivorous animals seem to vary slightly with the vegetation and largely with epidemics of wide-spread disease. Carnivorous animals appear to die from exposure and starvation in winters when their herbivorous prey has died from epidemics. They do not usually seem to have specific epidemics on the same large scale as the harbivores. A study of statistical reports extending over a century of fur-trading shows that the peak years of rabbit abundance were 1845, 1855, 1866, 1877, 1887, 1897, 1905, 1917, and of lesser abundance in 1924.

This approximates a 11-year cycle and Elton suggests its association with sunspot maxima and the 11-year weather cycle, with its concomitant effect upon vegetation, tree growth, lake levels, etc. As might be expected the rise and fall of lynx, fox and wolf is coincident with that of the rabbit. There is almost perfect correlation in the rise and fall of rabbits and lynx, and of equal intensity.* Alexander Henry's "Journal of the Upper Red

*See graphs, p. 19.



PERIODIC FLUCTUATIONS SINCE 1850

River, 1800-1808" records lynx skins taken in successive years as 20, 67, 194, 167, 0, 4, 4, and 1804 was a sunspot year, and of rabbit abundance. In 1896 H.B. Co. exported 56,407 lynx, in 1900, 4,473, and in 1906, 58,791, rising and falling with the rabbits and to equal extent. Of equal regularity are the plagues or epidemics which occur at the rabbit maxima. Hind records the plague of 1857 on the Upper Assiniboine, Macoun the plague of 1875 at Portage, Cadham the plague of 1887 in all Southern Manitoba, Preble and Thompson the plague of 1906, and the blistered rabbits of 1918 is within the memory of all. This periodic abundance of rabbits and sudden decline is a perfectly normal happening. In good or favorable years the fertility of rabbits is much increased, there being eight to ten young in a brood instead of five or six and two or three broods instead of one. The district becomes surcharged with rabbits, slum conditions prevail, food fails, epidemics break out and the population is destroyed in a season. Following such destruction the lynx suffers from starvation and wasted bodies were found all over the Mackenzie basin following the rabbit plague of 1906. Following the plague of 1917 the lynx migrated south on to the prairies in search of food and some were killed within the bounds

of Winnipeg. In lesser degree the fox and the wolf are dependent upon rabbits, and in still lesser degree the marten and the fisher.

The dependence of the larger animal upon the abundance of the smaller is very marked. At the bottom of the scale are the numerous species of herbivorous mice, voles and lemmings, which constitute the food of so many of the carnivores. What moss is to the reindeer, and grass to cattle, the mice millions of the north are to the carnivores. Here is where the energy of the sun gets into flesh, and if all flesh is grass then *most fur is mouse.* Upon the abundance of mice depends the fine, fur-bearer, and mice have periodic fluctations like the rabbit, but in shorter cycles, because more dependent upon the annual herbaceous vegetation and seeds and upon the quicker increase through numerous broods. The fluctuation in mice and small rodents has not been studied locally, but extensive investigation in Norway and Siberia reveals a short 3 to 4-year cycle, intensified in major 11-year cycles. These cycles seem to be world-wide and dependent upon a world-wide cycle of barometric pressure. Cabot (1912) reports a mouse maximum in Labrador in 1905, when "two or more mice could be seen at one time, all twigs riddled, moss tattered, falcons and owls numerous, foxes abundant; even a bear killed was full of mice." The next year the mice disappeared with the snow, the falcon cliffs were deserted, ptarmigan were scarce and caribou were fleeing from hungry wolves. Even the ptarmigan and the caribou, therefore, are dependent upon abundance of mice, lemmings, marmots, gophers and other small rodents which are the regular food of predatory animals. A matter so important warrants local research as to the causes of such great fluctuation in our fur and game animals. It not only affects the life of the Indians and the people of the north, but also affects the out-put and price of furs and the preservation of our fur-bearers against possible depletion by epidemics rather than by trapping or hunting, which is scarcely a factor in the periodic and extreme fluctuations in fur animals.

PART II—THE FUR INDUSTRY

WINNIPEG A WORLD FUR MARKET

By C. D. Lang, Editor *The Northern Fur Trade*

The history of Winnipeg as a fur centre began in 1738 when La Verendrye came here to the junction of the Red and Assiniboine rivers and established Fort Rouge. Sixty years later the North-West Company established Fort Gibraltar; a few years later Fort Douglas was constructed by the Hudson's Bay Co. Fort Garry was erected in 1821 after the two great rival companies had amalgamated. Thus the City of Winnipeg was born of the fur trade and all the cherished romance and color of her early history blossomed in that adventurous hundred years following the arrival of La Verendrye.

After the fur traders had blazed the way, the husbandmen came. This following of the farmer after the fur man is typical of the industrial evolution of North America, if not of the entire world. In her stage of that evolution Winnipeg has become the world's greatest grain market. But, true to the tradition of her origin, Winnipeg also remains a great primary raw fur market. The Hudson's Bay Company still does business right across the street from the ruin of the original Fort Garry—on a scale which typifies how Winnipeg has kept pace with the times in the fur industry.

Manitoba's Trappers

The trapper is the first person the fur bearer meets on its way to the wearer. Therefore, a consideration of the trapper's end of the industry may well come first. In addition to her Indian hunters, Manitoba has about five thousand licensed white trappers. These men produce about $3,000,000.00 in new wealth within the boundaries of the province annually. In their localities trappers are purchasers of supplies—traps, rifles, clothing, groceries and hardware—for the full value of their catches; they are an important factor in local business prosperity.

Trapping is a skilled craft. The success of the trapper is in certain ratio to his knowledge and skill plus the energy he puts into his work. But energy cannot take the place of knowledge. Therefore, trapping is not essentially different from any of the other learned professions. A good working knowledge of trapping can be picked up in about five years of close study.

It takes a cash outlay of from two to five hundred dollars to equip a single trapper for a winter in the north. When Indians are considered, this predicates an investment of over $10,000,000 in trappers' equipment in the province. This equipment—canoes, traps, firearms, etc.—since it is added to from year to year, probably costs more than the sum mentioned. Three million dollars a year means a lot to retail business.

The Trader

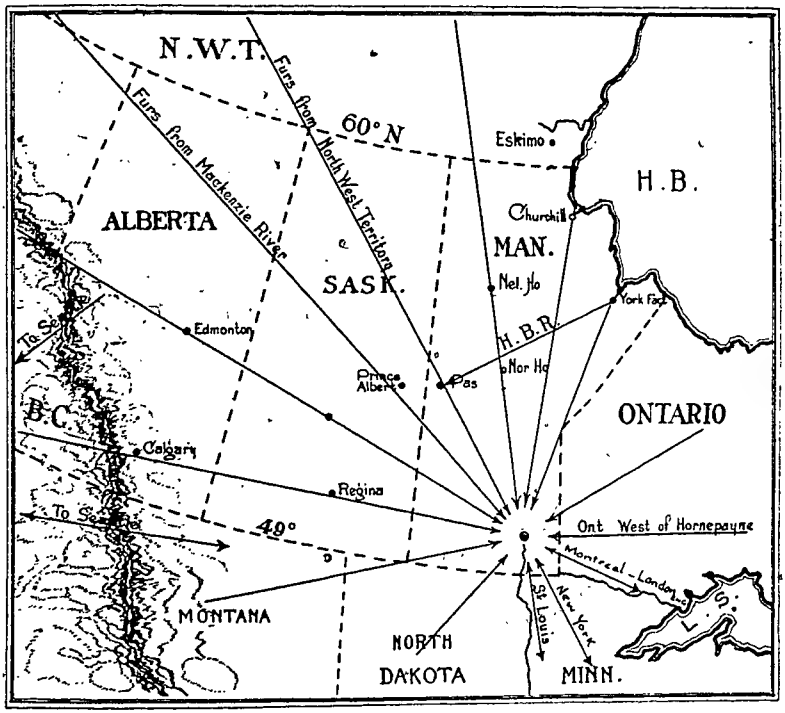
Manitoba has about five hundred licensed fur buyers. The majority of these are the traders who receive the furs from the trappers at country points. Of course many trappers send furs to Winnipeg and other points by mail and express, but the great bulk of the business passes through the hands of the local fur dealer. The Hudson's Bay Company maintains numerous posts in the province and throughout Canada as in the days that were. This company and many of the other local traders still follow the custom of grubstaking Indian and white trappers, but the custom is becoming increasingly dangerous from a business point of view as settlement proceeds and competition increases.

The local trader is on the spot when the trapper comes out of the woods. This is the first circumstance ensuring the trader's enduring place in the business. Some traders go further; they follow the trapper actually to his trap line with supplies and cash to exchange for his furs. By these means the traders save the trappers' time in the season when every day counts. Even in the remotest parts of Canada, competition for furs is so keen that the traders are compelled to work on a small margin of profit. The popular conception that things are otherwise is erroneous. The days of John Jacob Astor have passed forever.

The Wholesale Fur Dealers

Manitoba furs, whether handled by local traders or not, come to Winnipeg as a matter of course. They are handled here by the wholesale raw fur dealers or by the auction sales companies. But Winnipeg handles much more fur than the crop of Manitoba. The city is an important world fur centre. Furs from all over Canada and the Northern States come to this market. The fur producing area directly tributary to the city is roughly from the Rocky Mountains on the west to a line drawn north and south through Hornepayne, Ontario, on the east in Canada. Buyers for Winnipeg houses also buy furs in the Northern States, and Winnipeg fur men buy at the other world markets of London, New York, Montreal, Seattle, St. Louis and the growing centres, Edmonton and Vancouver. These Winnipeg fur men are world traders in the literal sense of the term.

The way of fur is different from that of any other commodity. Winnipeg dealers may sell furs to New York or London. They may also buy in those markets and ship the goods back to Winnipeg to await favorable time for resale. Perhaps the goods are bought in New York and shipped to London, or vice versa. Infinite variety of movement is practiced on the judgment of these dealers, who are not at all impressed by the magnitude of the map of the world. The fur trade, therefore, means much more to the city of Winnipeg than merely the handling of the Manitoba crop. The wide scope of the trade, and the fact that large deals made



WINNIPEG AS A FUR CENTRE

abroad in fur by Winnipeg men involves no physical handling here, make it almost impossible to arrive at figures representing the value of the industry to the city. The business is, of course, financed in Winnipeg and bulges the city's bank clearing figures to an appreciable extent. The physical investment of the Winnipeg raw fur wholesalers is not large in proportion to turnover. In addition to floor men, graders, packers and accounting staffs, the buyers for Winnipeg houses operate at four points of the compass. These men spend most of the winter away from the city, but the summer sees them back in their native haunt recovering from the nerve-racking business of buying furs on the road. Travelling buyers must be able to grade close and be in possession of last-minute market information. The shipment of furs from one province to another calls for a high standard of legal talent, and jumping off trains in the middle of the night at places where water tank and section house hospitality is frequently the only kind available—these things wear down the strongest in time. And so the fur buyer longs for the golf courses of Winnipeg in the summertime. He has his being and spends his money here.

The organization of the Winnipeg dealers is the Manitoba Raw Fur Merchants' Association. This body is presided over by Mr. M. Finklestein, and includes all the large operators in the city. All traders and dealers in raw fur in the province are, however, entitled to become members of the association, which functions in the interest of the industry as a whole and not particularly in favor of the Winnipeg wholesale trade.

According to the best authority, the total turnover of Winnipeg wholesale houses dealing in raw furs is estimated at $15,000,000.00 or more. These same houses also handle most of the world's supply of seneca root. They export this product to the value of about $500,000.00 annually.

The Brokers

The raw fur brokers are the buyers in the wholesale market. These men usually come to Winnipeg during the season, although a number reside here permanently. They buy only from the wholesale dealers or at the auction sales and are not usually interested in small quantities. They represent large users of furs throughout the world.

The Auction Sales Companies

The auction sales system of selling fur came from Europe. The furs are placed on view about ten days before the sale and buyers are permitted to grade and evaluate them. Each lot is given a catalogue number and the buyer marks in his catalogue the limit he is prepared to bid on it. When the auction day arrives he raises his pencil until his high mark is reached—some skins like ermine and rats advance 5 cents per skin minimum raise, minks 25 cents, and so on up to silver foxes, which usually advance $5.00 per skin minimum raise on each bid.

Winnipeg's first auction sales company was established in 1921. Under the management of Mr. H. Yewdal, the company has made substantial progress as indicated by the following figures:

March 1, 1921, to Feb. 28, 1922	$ 761,043.91
March 1, 1922, to Feb. 28, 1923	1,113,896.11
March 1, 1923, to Feb. 28, 1924	1,188,982.01
March 1, 1924, to Oct. 31, 1925	2,479,334.16

At its last sale held in January, 1926, this company sold over $500,000.00 worth of raw furs. The company sells only Canadian furs and features its system of offering each shipper's lots separately instead of grading them in with lots from similar sections. Four sales annually are held by this company.

Shippers to auction sales may draw cash advances from the companies up to a fair proportion of the estimated value of the

goods shipped. This system enables operators to offer their goods to the trade in these periodic sales without tying up their entire capital; it is, in effect, a margining system.

The Winnipeg auction sales attract buyers from all over the American continent and also representatives of European houses.

The New York Auction Company, Inc., one of the great fur sales companies, maintains an agency in Winnipeg under the management of Mr. C. G. Wilson. Furs from Western Canada and Western Ontario are collected at this agency and forwarded to New York, where they are sold by auction. This company was formed in 1922 and has collecting agencies throughout the world. The company started with a cash capital of $300,000.00; its present assets are $900,000.00. The presence of this company in Winnipeg is an indication of the city's status as a fur centre.

The Hudson's Bay Company furs are sold by auction at London, England, but are bought outright by the company here and not sold for account of individual shippers as is the case with the other companies disposing of furs by means of auction sales. The importance of Winnipeg as a fur centre is further established by the fact that Mr. A. Brabant, the fur trade commissioner of the Hudson's Bay Company, has his headquarters here. This is a fact of more than passing interest when the immense fur business of this great company is remembered.

The Furriers

After the trapper, trader, wholesaler, broker and auction salesman comes the furrier. He buys from the wholesaler at the auction sales or from the dealer in dressed skins. Winnipeg needs are taken care of by about twenty leading furriers. They are organized as the Retail Fur Section of the Manitoba Retail Merchants' Association.

The Winnipeg furriers employ about two hundred persons, and sell about $1,000,000.00 worth of furs each year. Winnipeg has also three wholesale fur manufacturers and three makers of cloth coats using fur trimmings. This wholesale trade employs about one hundred persons.

The needs of the city and tributary area demand not only high grade furs but also up-to-the-minute styles. The Winnipeg furriers handle this demand competently. Silk linings and other furriers' supplies represent a considerable volume of business in the city.

The Fur Dresser and Dyer

The fur dresser and dyer is the man who revolutionizes the fur business every month or so. He is a chemist, a magician and an artist combined. This is the man who discovered how to make good seal out of muskrat and changed the value of that

animal's hide from fifteen cents to $1.50 and up. He has taken the humble rabbit into his hands and turned back the fierce leopard, the sable, the electric seal, the chinchilla, the beaverette and many more. Nor is the end reached. From the flanks of southern muskrats he has evolved the silver rat and the golden rat; he has dozens of dyes for foxes, squirrels and ermine and every day something new is announced. The rainbow resigned from competition with him long ago.

The dyer's art has the merit of being constructive. Each new discovery has the merit of increasing the value of something. Certain skins defy all attempt to increase their natural beauty; others, like human beings, invite it, and it is in these others the dyer has sought and found new beauty.

So far Winnipeg has only one dressing and dyeing house. But this is a progressive concern, turning out work comparable to the best. Winnipeg Hudson Seal has already established a name for itself. Furriers are very critical about Hudson Seal; it must have the proper sheen, shade and permanence and the leather must have stretching quality. All these are claimed for the Winnipeg Hudson Seal.

The Fur Ranches

Winnipeg has five large silver fox ranches at her door, in addition to several smaller enterprises in minks and Chinchilla rabbits. These help to increase the volume of the city's fur trade. They are producing new wealth and the industry is growing steadily. These local ranches have sold breeding animals to every country in Europe during the fall of 1925. One Winnipeg fox ranch competed at Toronto and Vancouver fox shows recently and proved the quality of its strains with winning animals in leading classes. The ranching movement is well worth study, since it provides the most practical and positive method of increasing the fur resources of the province.

The silver fox ranchers of Manitoba are organized as the Manitoba Silver Fox Breeders' Association. Mr. A. M. Doyle, of the All Star Ranch, Winnipeg, is the president.

The Golden Egg

The meaning of the fur trade in Winnipeg's commerce has been shown. The fur trade is of great value to the city. The two main enemies of the industry are fanaticism and ignorance. The fanatic would have buffaloes, if not dinosaurs, still prowling about on the prairies in preference to human beings; he favors the crucifixion of those who kill any kind of animals and is always crying for more restrictive game laws. The fanatic does not realize that dinosaurs, auks, passenger pigeons and even buffaloes were not hunted off the earth by man—they disappeared for other and less obvious reasons.

Ignorance, the other enemy, thinks the fur trade is so rich it can stand anything. This is a vicious belief. Very few outstanding fortunes have been made in furs and not a large number of moderate fortunes since the days when Mr. Astor purchased New York. The fur trade furnishes employment for a great number of people; it provides a necessary and beautiful commodity. The industry has met with many impediments and no encouragement since 1670. Many people harbor the notion that Canadian furs have no competitors. This is a false idea. If our prices are too high, fashion rules will dictate foreign skins and the skill of the chemist will create richness and beauty for the style makers.

The Canadian system of permits, licenses and royalties burden Canadian furs competing in world markets against furs of less regulated origin. Our heavy license fees discouraged foreign buyers in our markets.

A goose which laid golden eggs was once slaughtered. The fur men are hoping that increased public enlightenment will keep a similar fate away from their industry. As a national, provincial and a civic asset, the fur trade is well worth preserving.

Fur means much to Winnipeg now. And yet, old as the trade is, its possibilities are only in the dawning. It will respond marvellously to encouragement. This is not optimism. It is fact.

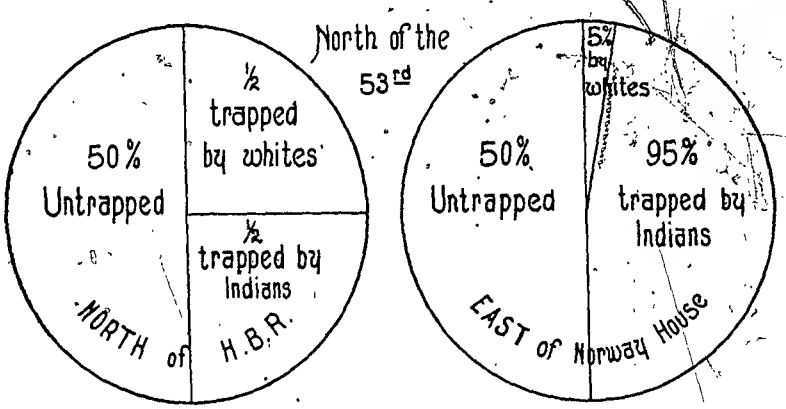
TRAPPING AREAS NORTH OF THE 53RD

Trappers, more than most individuals, are left to their own initiative and energy and so the traps set and the area covered differs greatly, but on the average trappers will trap from 30 to 50 miles up and down a river or chain of lakes from their post or cabin. One energetic trapper says he sets out 450 traps over a spread of 167 miles which he covers in one week. Usually it takes two trappers to cover such an area and the average number of traps set out is from 60 to 100 per trapper, and the Indian only half as many, on the average. On this basis, averaging the areas actually trapped by a number of white trappers as 30 to 50 miles up and down rivers, it is possible to map out Northern Manitoba into trapping areas for whites. On this basis there are 27 trapping areas north of the 56th and 26 trapping areas south of it. The best areas are naturally in the farthest north, much of which has been left untrapped and to which the white fox make an annual migration.

South of the 56th trappers go in in increasing numbers from Hudson Bay Railway, which has made access to the trapping grounds much easier than formerly, and hence has reduced the trapping area per trapper and increased the competition to a point of conflict. The Hudson Bay Railway, however, serves as a convenient land mark in designating trapping areas and it would be easy to assign limits along this line and south of it. In some favorable localities the region is entirely over-trapped.

Last season there were from 200 to 300 white trappers in northern Manitoba where traders and trappers agree there are only from 50 to 60 trapping areas capable of supporting two trappers each, which brings up the question as to whether trapping should not be limited to residents only.

In the Hayes River section there has not been the same invasion of white trappers because of the difficulty of access. Less than half a dozen outfits went in through Norway House last September, and it would take them three to four weeks to reach their trapping grounds beyond Oxford House and God's Lake.



Relative trapping by whites north and south of the Hudson Bay Railway.

TRAPPERS AND TRAPPING: OPINIONS OF TRAPPERS AND TRADERS

Why local objection to outside "white" trappers?

"Whereas the Indian was once the sole trapper of the north he now gets less than half the fur north of the H.B.R." (H.)

"There has been an increase of 150-200 outside trappers in last four years." (R.)

"Too much competition compels too early trapping, poisoning or penning of 'blue pelts'." (H. and R.)

"Gives Manitoba a bad name in the fur trade." (H.) (137.)

"Local game guardian should have authority to cancel license for poisoning or trapping or penning out of season." (R.)

"Thirty dead (poisoned) fox found in 10 miles on Stinking Lake." (H.)

"For $2,000 worth of fur the poison baiter destroys $20,000 worth" (H.), *i.e.*, for 100 fox the poison baiter destroyed 1,000. (H.)

"The poison baiter can carry 500 baits in his pocket." (H.)

"Traps are a decoy for poison." (C.)

"Bundles of traps are often found cast aside at a portage."

"Indians resent the use of poison." (D, K.)

"Indians do not trap a district out, they change their hunting ground." (C, D, K.)

"Thirty years ago beaver was the big thing, the main fur, today nearing extermination—only 200, Norway House, 1925."

"The irresponsible outsider destroyed the beavers' home." (B.)

"The Indian preserves his beaver ground, always leaves three for breeding." (K.)

"The Indian only wishes to satisfy his immediate needs, the outsider comes in for quick gain." (G.R.)

"Twenty years ago Cedar Lake yielded more rats than all the north today." (C. and G.R.)

"Ruthless trappers destroy the winter home of the 'rat' and a 'freeze out' results." (H.)

"Excess competition and necessity force trappers to poison and destroy." (R.)

"Kill female beaver in the fall and destroy the winter home." (D.)

"Most dirty work is done about 'freeze-up' when game guardian or police cannot get around." (D.)

"And this is the time of 'blue pelts' and 'poor fur'." (H.)

"The ways of resident trappers are known, the newcomer goes far out looking for a 'clean up'." (S.)

"Three hundred trappers in fifty trapping areas." (R.)

"There is not enough trapping for the resident trapper." (B, D, H, R.)

"Limiting licenses to resident trappers is the fairest and most feasible suggestion for conserving the fur of the north I have so far heard advanced." (B. of H.B.C.)

"We have no hesitation in recommending a closed season on beaver. Very few beaver are now taken south of the Churchill river. The bulk of the catch taken by the trappers with whom we are dealing comes from north of that river. If no white trappers were operating north of the Churchill the beaver would probably hold up, but now that the white trappers are pushing further north in greater numbers each year, it is but a matter of time until these valuable fur bearers will be exterminated in that territory also." (D-137)

"In comparing the past three seasons (fall, 1922, to spring, 1925) with the previous three seasons (fall, 1919, to spring, 1922) we find the following decreases in our collections: rats 12%, beaver 25%, mink 15%, weasel 70%, fisher 50%, while lynx and foxes have shown a substantial increase. Marten no change." (D-137.)

"We do not think there is an individual in the trapping territory north of the 53rd but knows there are already too many trappers on the ground for the quantity of fur there is available." (D-137.)

"In discussing game matters with a few of our better type trappers we find they are quite willing to pay a much higher permit fee for the privilege of trapping, provided they be given certain protection in the way of an exclusive trapping rights lease on the ground over which they have been trapping. This arrangement, we think, would help to solve the problem for the government as far as new trappers are concerned, as when the ground is all under lease there would be no room for new comers. There are quite enough trappers now in the country to take up in reasonably sized leases all the trapping ground north of 53. This system should create an incentive for lease holders to protect and conserve the game and timber on their respective leases.

"We do not know of any industry likely to be developed north of the 53rd with which the granting of trappers' leases would interfere." (D-137.)

AUTHORITY FOR STATEMENTS—ABBREVIATIONS USED AT END OF TOPICS

B—Ray Baer, Norway House.
C—Wm. Campbell, Norway House.
D—Pete Durand, Norway House.
G.R.—Jas. Campbell, Grand Rapids.
Henry Mackay, Grand Rapids.
H—Horace Halcrow, The Pas.
K—Douglas Keddie, The Pas.
M—Arthur Mercer, Cross Lake
P—Photos submitted.
R—Sergeant Rose, The Pas.
S—B. M. Stitt, Chief Ranger, The Pas
137—Dick Davidson, Mile 137, H.B.R

TRAPPERS' OUTFIT

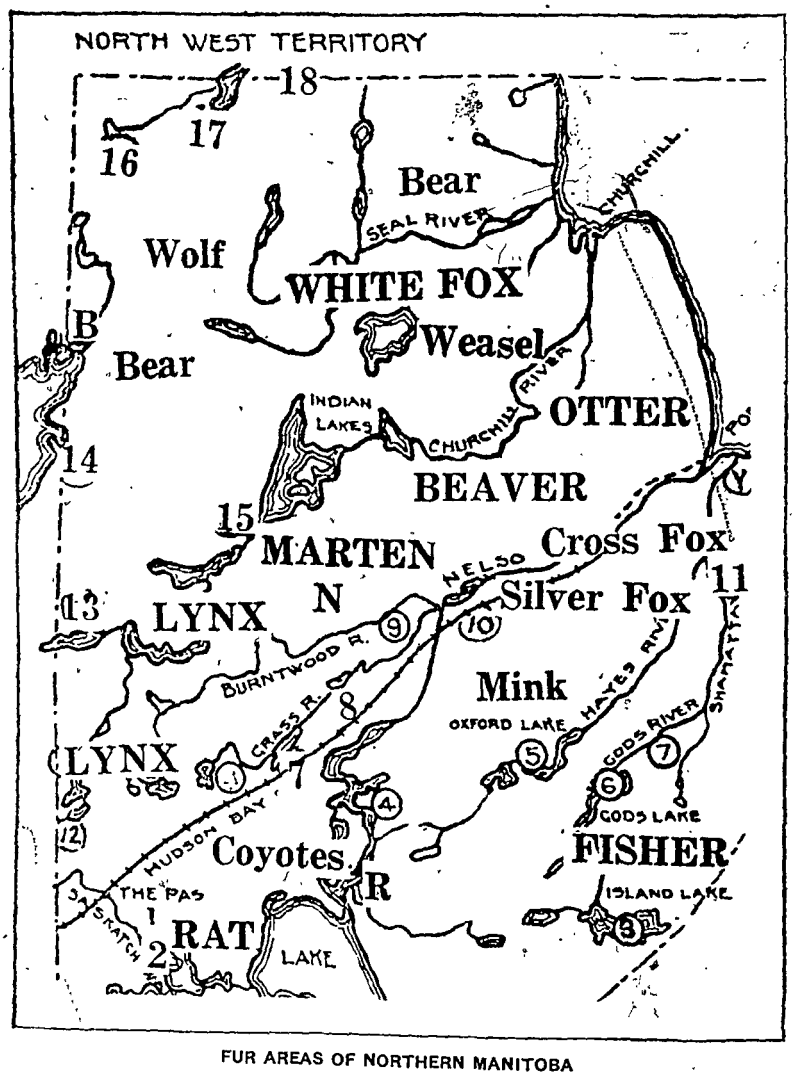
Eight Months' Grubstake for Two

Salt	25 lbs.	Cornmeal	20 lbs.
Pepper	7	Baking Soda	4 lbs.
Flour	500 lbs.	Jams	20 lbs.
Baking Powder	10 lbs.	Mustard	2 tins
Yeast Cakes	10 pkgs.	Coffee	15 lbs.
Lard	30 lbs.	Cocoa	10 lbs.
Beans	40 lbs.	Tea	5 lbs.
Butter	40 lbs.	Milk	1 case
Pot barley	15 lbs.	Salt pork (or bacon)	40 lbs.
Rice	20 lbs.	Corn starch	5 lbs.
Raisins	20 lbs.	Tapioca	5 lbs.
Prunes	40 lbs.	Candles	10 doz.
Sugar	40 lbs.	Soap (toilet)	5 bars
Oatmeal	20 lbs.	Soap (laundry)	2 boxes
Total—700 lbs.		Cost—$120.00	

Dogs (including sleigh, packs, and harness)	$ 100	Ammunition	$ 20
Traps	150	Clothing	50
Tent	20	Grubstake	120
Stoves	25	Cooking utensils	15
Bedding	75	Snowshoes and moccasins	10
Axes and hunting knife	10	Canoe	100
Rifle, Winchester model 95, cal. .30 U.S.—06	75	Evinrude or overboard engine	175
Rifle or automatic pistol, cal. .22	25	Incidentals	30
		Total (minimum for first year)	$1,000

LIST OF MANITOBA INDIANS DOMICILED NORTH OF THE 53rd PARALLEL

Clandeboye—	
Grand Rapids	113
Poplar River	164
Norway House—	
Cross Lake	525
God's Lake	302
Island Lake	625
Nelson House	461
Norway House	714
Oxford House	378
Split Lake	341
The Pas—	
Chemawawin	135
Pas	453
Moose Lake	119
Fort Churchill	89
Moose Factory	215
Ile a La Crosse—	
Barren Lands	149
Lac la Hache	133
Pukatawagan	313
	5229



FUR AREAS OF NORTHERN MANITOBA

FUR CENTRES IN NORTHERN MANITOBA

The fur circles are centres of most density or breeding centres from which the animal migrates. Lynx migrate as far east as God's River, marten south to the 54th, arctic fox inland 100 miles, beaver are limited to the poplar, which suddenly stops at Lat. 57½, and Fisher centre around Island Lake. Coyotes

have recently penetrated the spruce area, and as far east as the Bay, due perhaps to scarcity of rabbits. Weasel and mink are fairly well distributed. The barren land Caribou go south along the coastal region as far as the Ontario boundary, returning in the spring before the break-up.

Y—York Factory, H.B.Co. (1681), still a centre of trade in white fox, silver fox, otter, beaver, ermine and wolverine.

C—Fort Churchill (Fort Prince of Wales, 1734), still a centre of trade in arctic fox, polar bear, ermine, otter and wolf.

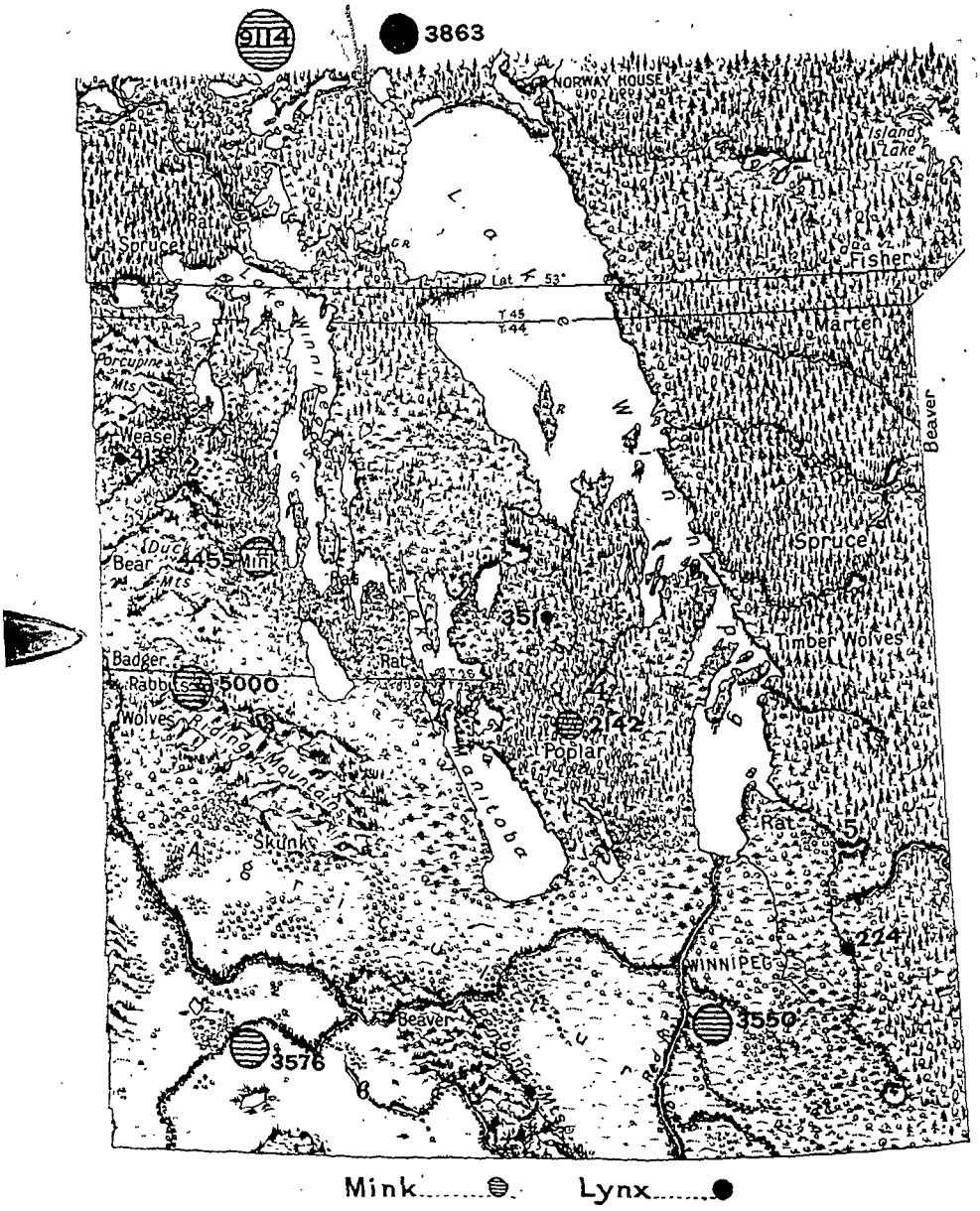
P—The Pas, 1741 (near Cumberland House, 1769), centre of rat trade, and receiving incoming furs from Hudson Bay Railway.

R—Norway House and Rossville (1811), receiving furs from Island Lake, God's Lake, Oxford House and Cross Lake.

N—Nelson House, centre of marten, lynx, bear, beaver and mink and receiving white fox and ermine from the far north.

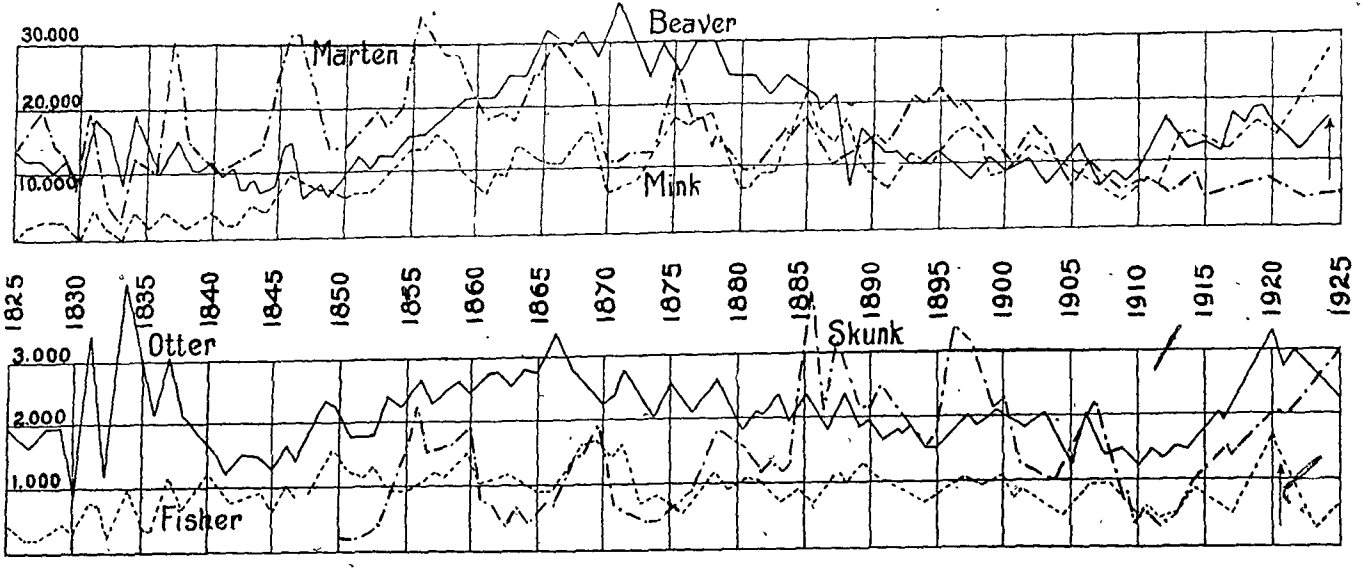
B—Lac du Brochet, trade with Chippewyans and Deer Hunters of the north.

1. Moose Lake, once important rat post, now closed.
2. Cedar Lake (old Fort Bourbon, 1766), once important rat post, now trading through Grand Rapids in summer time.
3. Island Lake, centre of Fisher area, also mink, marten and fox.
4. Cross Lake, old H.B. post and several free traders.
5. Oxford House, once important H.B. post, but establishing new posts, 6 and 11.
6. God's Lake, has divided the trade.
7, 8, 9, 10. New trading posts on the Hudson Bay Railway, diverting trade from old posts to this quicker outlet and giving white trappers quick and easy entrance to this once difficult area. Now white trappers get half the fur catch north of the line, whereas in the more remote Norway House area the white trapper only gets about 5% of the fur catch.
11. Shamattawa, a new post for receiving white fox, cross fox, fisher, wolverine and otter.
12, 13, 14. Pelican Narrows, Pukatawagan, and Rabbit River on the Saskatchewan boundary, lynx, fox, and marten centres.
15. South Indian Lake, a new post to collect from the Chippewyan Indians, who come this far east.
16, 17, 18. Sasimir, Eskimo, Nueltin, new posts for trading with the Eskimo of the Barren Lands.


9114
3863
NORWAY HOUSE
Island Lake
Rat
Spruce
Fisher
Lat 53°
T 45
T 44
Marten
Porcupine Mts
Wease
913
Beaver
Spruce
Duck Mts
Bear
4455
Mink
351
Timber Wolves
Badger
Rabbits
5000
Rat
T 25
T 25
Wolves
Riding Mountain
2142
Poplar
Manitoba
Rat
5
Skunk
224
WINNIPEG
3550
Beaver
3576
Mink
Lynx

THE BREEDING HABITS OF FUR ANIMALS

	Mating	Gestation	Litter	Time	Adult
Beaver	Paired for life	3 mos.	2 to 5	May	2 yrs.
Muskrat	Monogamous	30 days	4 to 9	May and July	3 mos.
Bush-rabbit	Usually mate	30 days	2 to 6	May and June	1 yr.
Jack-rabbit	Polygamous (?)	30 days	3 to 6	June or July	1 yr.
Lynx	Usually pair	3 mos.	1 to 4	June	1 yr.
Fox	Pairs for life	51 days	4 to 9	April	9 mos.
Wolf	Pair	63 days	6 to 7	March	21 mos.
Coyote	Pair	63 days	5 or 6	April	20 mos.
Otter	Pair	61 days	1 to 3	May	2 yrs.
Weasel	Pair (?)	40 days	4 to 8	May	(?)
Mink	Polygamous	42 days	5 or 6	April-May	1 year
Marten	(?)	103 days (?)	3 or 4	April	
Fisher	Pairs (?)		2 or 3	May	
Wolverine	Pairs	60 days (?)	2 or 3	June	
Skunk	Pairs	42 days	4 to 6	May	
Badger	Pairs		2 to 5	April	
Raccoon	Pairs		3 to 6	May	
Black Bear	Pairs	7 mos.	2	Feb.-May	3½ yrs.



A CENTURY OF FUR TRADE IN MANITOBA AREA
Data from Hudson's Bay Campany returns to 1905, and Manitoba returns to 1924.

FUR BEARING ANIMALS OVER ONE HUNDRED YEARS AGO

From Sir John Franklin's Diary at Cumberland House, 1819.

"Of fur-bearing animals, various kinds of fox are distinguished by the traders under the names of black, silver, cross, red and blue foxes. The two former are considered by the Indians to be the same kind, varying accidentally in the color of the pelt. The black foxes are very rare and fetch a high price. The cross and red foxes differ from each other only in color, being of the same shape and size. Their shades of color are not disposed in any determinate manner, some individuals approaching in that respect very nearly to the silver fox, others exhibiting every link of the chain down to nearly uniform deep or orange yellow, the distinguishing color of the pure red fox. It is reported both by Indians and traders that all the varieties have been found in the same litter. The blue fox is seldom seen here, and is supposed to come from the southward. The gray wolf is common here. In the month of March the females frequently entice the domestic dog from the forts, although at other seasons a strong antipathy seems to subsist between them. Some black wolves are occasionally seen. The black and red varieties of the American bear are also found near Cumberland House, though not frequently; a black bear often has red cubs, and vice versa. The grizzly bear, so much dreaded by the Indians for its strength and ferocity, inhabits a tract of country nearer the Rocky Mountains. It is extraordinary that although I made inquiries extensively among the Indians, I met with but one who had said he had killed a she-bear with young.

"The wolverine is an animal of great strength and cunning, and is much hated by the hunters on account of the mischief it does to their marten-traps. The Canadian lynx is a timid but well-armed animal which preys upon the American hare. Its fur is esteemed. The marten is one of the most common furred animals in the country. The fisher, notwithstanding its name, is an inhabitant of the land, living like the common marten principally on mice. The mink has been confounded by writers with the fisher. It is a much smaller animal, inhabits the banks of rivers and swims well; its prey is fish. The otter is larger than the English species and produces a much more valuable fur.

"The muskrat is very abundant in the small grassy lakes. They build small conical houses with a mixture of hay and earth; those which build early raising their houses on the mud of the marshes, and those which built later in the season founding their habitations upon the surface of the ice itself. The house covers a hole in the ice which permits them to go into the water in search of the roots on which they feed. In severe winters, when the small lakes are frozen to the bottom and these animals cannot

secure their food, they prey upon each other. In this way great numbers are destroyed.

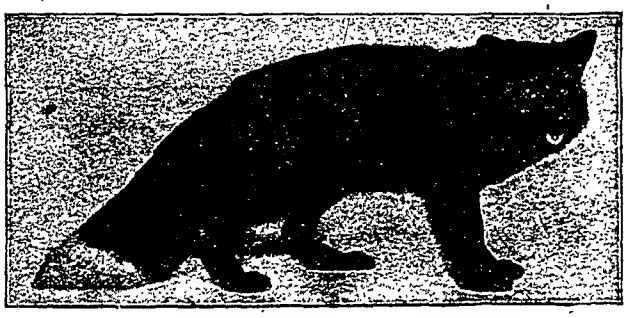
"The beaver furnish the staple fur of the country. Many surprising stories have been told of the sagacity with which this animal suits the form of its habitation, retreats and dam, to local circumstances, and I compared the account of its manners, given by Cuvier, in his Regne Animal, with the reports of the Indians, and found them to agree exactly. They have been often seen in the act of constructing their houses in the moonlight nights, and the observers agree that the stones, wood or other materials are carried in their teeth, and generally leaning against the shoulder. When they have placed it to their mind, they turn around and give it a smart blow with their flat tail. In the act of diving they give a similar stroke to the surface of the water. They keep their provision of wood under water in front of the house. Their favorite food is the bark of the aspen, birch and willow; they also eat the alder, but seldom touch any of the pine tribe except from necessity; they are fond of the large roots of the Nuphar lutea, and grow fat upon it, but it gives their flesh a strong rancid taste. In the season of love their call resembles a groan, that of the male being the hoarsest, but the voice of the young is exactly like the cry of a child. They are very playful, as the following anecdote will show: One day a gentleman, long resident in this country, espied five young beavers sporting in the water, leaping upon the trunk of a tree, pushing one another off, and playing a thousand interesting tricks. He approached softly under cover of the bushes, and prepared to fire on the unsuspecting creatures; but a nearer approach discovered to him such a similitude betwixt their gestures and the infantile caresses of his own children, that he threw aside his gun. This gentleman's feelings are to be envied, but few traders in fur would have acted so feelingly. The muskrat frequently inhabits the same lodge with the beaver and the otter also thrusts himself in occasionally; the latter, however, is not always a civil guest, as he sometimes devours his host."

FUR FARMING

Five years ago there was scarcely a fur farm in Western Canada; now there are nearly three hundred. There were only two fur farms in Manitoba in 1920, now there are fifty-two,* the number having doubled during the past year. A few years ago we thought fur farming couldn't be done; now we are wondering if it can't be overdone. But the increasing popularity of furs settles that matter. Fashion makes necessity, and when furs become "the thing" no lady can afford to be without them, no more than without silk hosiery. It is simply a matter of supplying the increasing demand, which will increase more rapidly no doubt than fur farms can increase. By following the trend of fashion

*See Map, p.41.

for exclusive furs of high quality, fur farming in the north can become a big factor in the fur trade, conserving the native resource and increasing the popularity and market of furs, for the fur trade has been transferred from Europe to America since the war. This means the trapping, tanning, dyeing, dressing and marketing of over 100,000,000 pelts in America, twice as many as before the war, and the demand increasing with increasing wealth. It is hardly likely that fur farming can be overdone if variety, exclusiveness and quality are maintained. This fur farming in northern latitudes can do, for fur is a protection against the cold, and northern furs are worth from four to ten times as much as southern furs. Manitoba has vast natural breeding grounds, unstocked. Of the fifty-two fur farms only three are breeding muskrats, which breed twice a year and are self-sustaining in marshy areas such as we have around our northern lakes. Beaver have increased so along the Assiniboine that some fifty



SYBIL OF MANITOBA

International First Prize Winner. See U.S. Government Bulletin No. 1151, pages 32-33. Winner of ten awards at Vancouver and Toronto, December, 1925.

special permits to kill are issued annually, to check the increase. Only three fur farms are growing Chinchilla rabbits, which are easy to raise and the fur increasing with the art of dyeing, and sold as Chinchilla, Coney, near seal and electric seal. Only one farm is raising skunk, a fur always in demand as such, or dyed as "Alaska sable," "black sable," "black marten." Raccoons were found up the Pembina valley and along the Assiniboine in pioneer days and before the days of corn, and one "coon" farm at Marieapolis is attempting to bring them back to the new corn belt.

The map shows the distribution and kinds of fur farms in Manitoba and the unstocked areas where fur farming might be greatly increased. It should also be noted that the wooded area of Manitoba is increasing and conditions becoming more favorable for fur-bearers. Ninety percent of the fur farms are breeding fox. This will shift with a change in the fashion or the price of

the fur. Many rarer fur-bearers can be as readily farmed as silver fox, which is simply a type of pure breeding that has been brought to a high state of perfection through twenty years of success in Prince Edward Island, which supplies 85% of the silver foxes coming onto the fur market today and at prices ranging from $100 to $600. On this little island $26,000,000 (1920) is invested in silver fox farming.

In 1913 there were only two silver fox farms in United States; now there are nearly 3,000. Of the 3,500 fur farms in Canada and United States ninety percent are raising silver black foxes, and represent a $30,000,000 investment. This new industry has practically doubled during the past two years, and in Manitoba has more than doubled.

By careful grading, selection and line-breeding, about 6,000 high-bred silver fox have been built up on this continent within a single decade; an improvement in stock unsurpassed by any domestic animal. It has taken three centuries to bring the Shorthorn cattle to their present state of perfection; yet thirty-five pairs of silver foxes from one fur farm in Wisconsin recently sold for $35,000. What may we expect in the future with the further improvement of stock? A bushel of minks recently sold for $1,000, equivalent to 800 bushels of wheat and produced on the same area as one bushel.

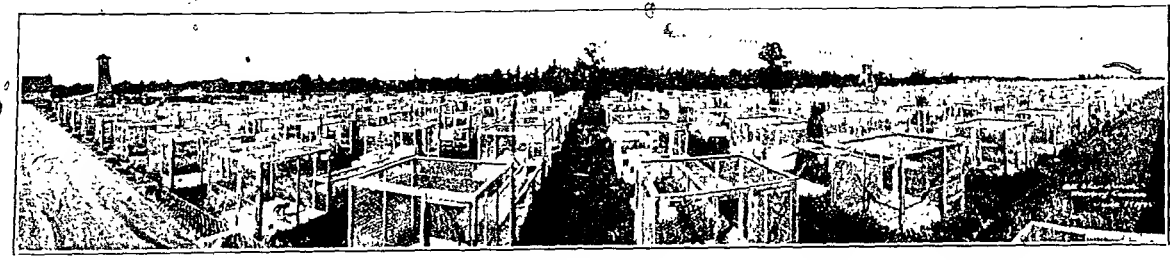
The possibilities of fur farming is just dawning upon us. The vogue of furs has nearly exhausted nature's supply and fur farms will have to supply the future, just as agriculture supplemented nature's supply of wild fruits and seeds in the dawn of civilization.

So the oldest industry of man, the getting of furs, is on the increase. Since the cave man went out with a club to get fur for clothing

"Daddy's always gone a-hunting,
To get a warm furry skin
To wrap his baby bunting in."

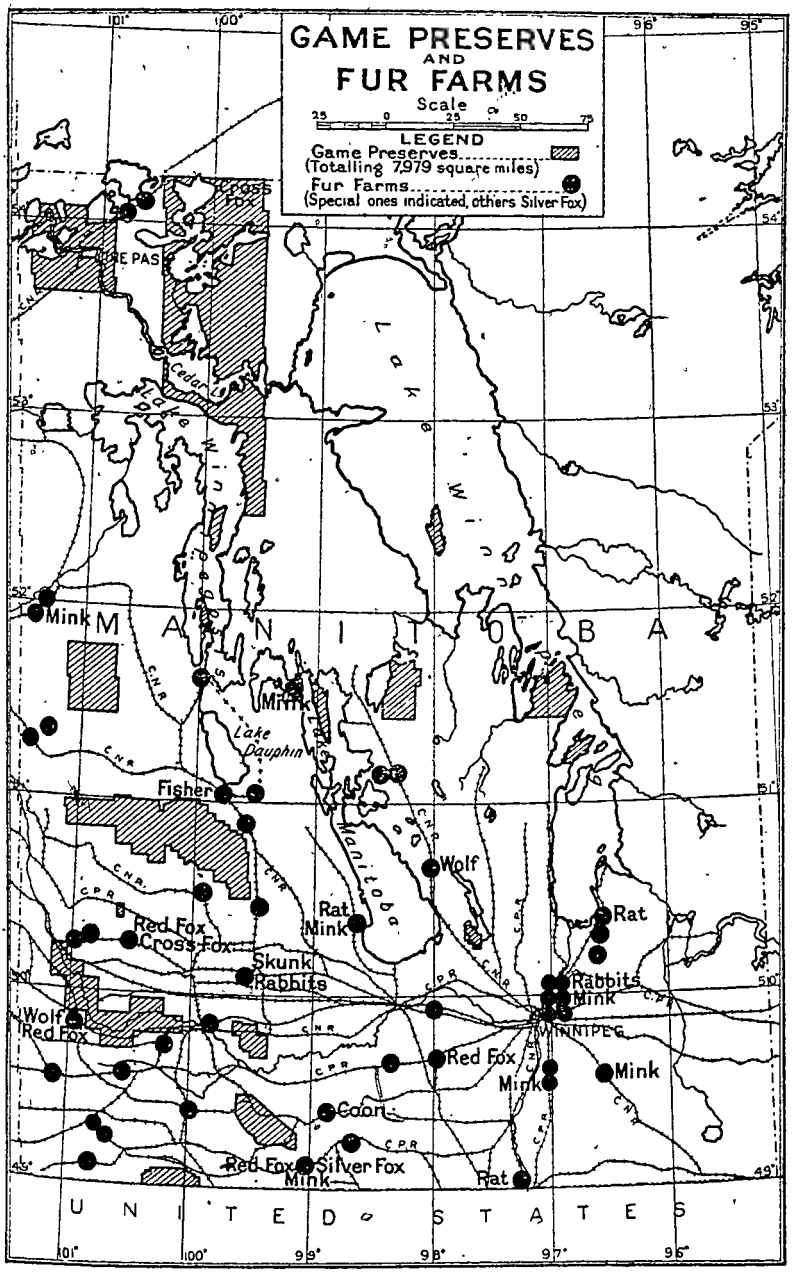
No other clothing has the warmth, the wear, the distinction that fur has. Nature still provides the ideal raiment, often worth its weight in gold: sable and ermine have brought twice their weight in gold; Alaska, which was bought in 1867 for $7,200,000, has produced $100,000,000 worth of fur and is still yielding the average rate of $2,000,000 to $3,000,000 a year. The Manitoba fur crop exceeds this and over a much longer period of years. Fur can be made a permanent resource by reasonable conservation, and greatly increased through fur farming, which means to fur animals what domestication meant to live stock: Control of quantity and quality.

(1) Ruffed Grouse Sitting Tight
(2) Skunk and Ruffed Grouse
(3) Fisher and Skunk



ALL STAR RANCH, WINNIPEG, ONE OF THE FINEST IN THE WEST

Manitoba Fox Farms shipped 114 registered silver foxes to Boulogne, France, in November, 1925, and other shipments have gone to Hamburg, Germany, to England, Denmark, Czecho-Slovakia, Belgium and Norway.


GAME PRESERVES
AND
FUR FARMS
Scale
25 0 25 50 75
LEGEND
Game Preserves
(Totalling 7,979 square miles)
Fur Farms
(Special ones indicated, others Silver Fox)
Cross Fox
THE PAS
Lake Winnipegosis
Lake Manitoba
MANITOBA
Mink
Mink
Lake Dauphin
Fisher
Wolf
Rat
Mink
Red Fox
Cross Fox
Skunk
Rabbits
Rat
Rabbits
Mink
Wolf
Red Fox
WINNIPEG
Red Fox
Mink
Mink
Coon
Red Fox
Silver Fox
Mink
Rat
UNITED STATES
101°
100°
99°
98°
97°
96°
95°
54°
53°
52°
51°
50°
49°
C.N.R.
C.P.R.

RESIDENT TRAPPERS' RETURNS

Year	Licenses Issued	Black Fox	Silver Fox	Cross Fox	White Fox	Red Fox	Fisher	Marten	Beaver	Otter	Mink	Bear	Wolverine	Skunk	Ermine or Weasel	Rat	Badger	Lynx	Wolf
						All													
1914-15	553	.....	.....	.....	.....	Fox	18	9	3	2	716	.....	.....	28	661	56392	.....	3	35
1915-16	1492	.....	.....	.....	.....	584	103	151	563	71	1516	64	.....	194	1119	79254	13	932	552
1916-17	1498	.....	.....	.....	.....	576	157	558	448	78	1893	34	.....	165	2809	75973	.....	1090	1177
1917-18	1394	.....	.....	.....	.....	783	121	290	373	48	1764	.....	.....	108	3545	78187	.....	468	689
1918-19	1865	.....	.....	.....	.....	478	98	439	887	119	1971	14	3	176	1193	111161	.....	290	422
1919-20	2420	.....	.....	.....	.....	387	245	1218	1654	93	2485	39	.....	493	5095	109286	4	198	430
						Red													
1920-21	1649	1	7	37	148	184	62	404	509	76	2718	32	12	1004	11537	87827	8	90	2152
1921-22	3083	1	15	372	107	489	68	379	424	100	5931	120	20	2684	22388	163354	258	309	1879
1922-23	3447	6	35	271	171	1255	56	292	12	59	4590	124	51	3174	13331	209717	140	465	1696
1923-24	4910	5	94	753	121	2464	115	650	762	193	7386	292	32	6433	26717	218600	400	936	2374
1924-25	5068	8	171	1145	2231	3440	113	384	988	137	6139	306	47	3433	34640	196796	328	703	3988

FUR CATCH IN MANITOBA, 1919-1920, $3,000,000
(ALASKA, $2,000,000)

Kind	Number of Pelts	Total Value	Average Per Pelt
Muskrat	518,288	$1,192,940	$ 2.30
Beaver	15,421	390,262	25.31
Marten	6,928	281,059	40.57
Mink	16,779	243,078	14.48
Coyote	15,407	270,884	17.58
Wolf	5,438	84,575	15.55
Ermine (Weasel)	118,168	160,270	1.36
Fisher or Pekan	1,386	131,206	94.66
Otter	3,691	59,343	16.08
Fox, Red	3,070	83,578	27.22
Fox, White	1,450	56,744	39.13
Fox, Silver	151	31,326	207.46
Fox, Cross	521	31,979	61.38
Fox, Blue	7	560	80.00
Lynx, including wild cat	1,295	42,151	32.55
Skunk	10,676	40,393	3.78
Bear, Black	906	12,300	13.58
Bear, Brown	148	2,081	14.06
Wolverine or Carcajou	277	6,690	24.15
Badger	2,217	2,662	1.20
Rabbit	1,694	368	.22
Moose	456	1,879	4.12
Deer	91	124	1.36
Total Value		$3,126,000	

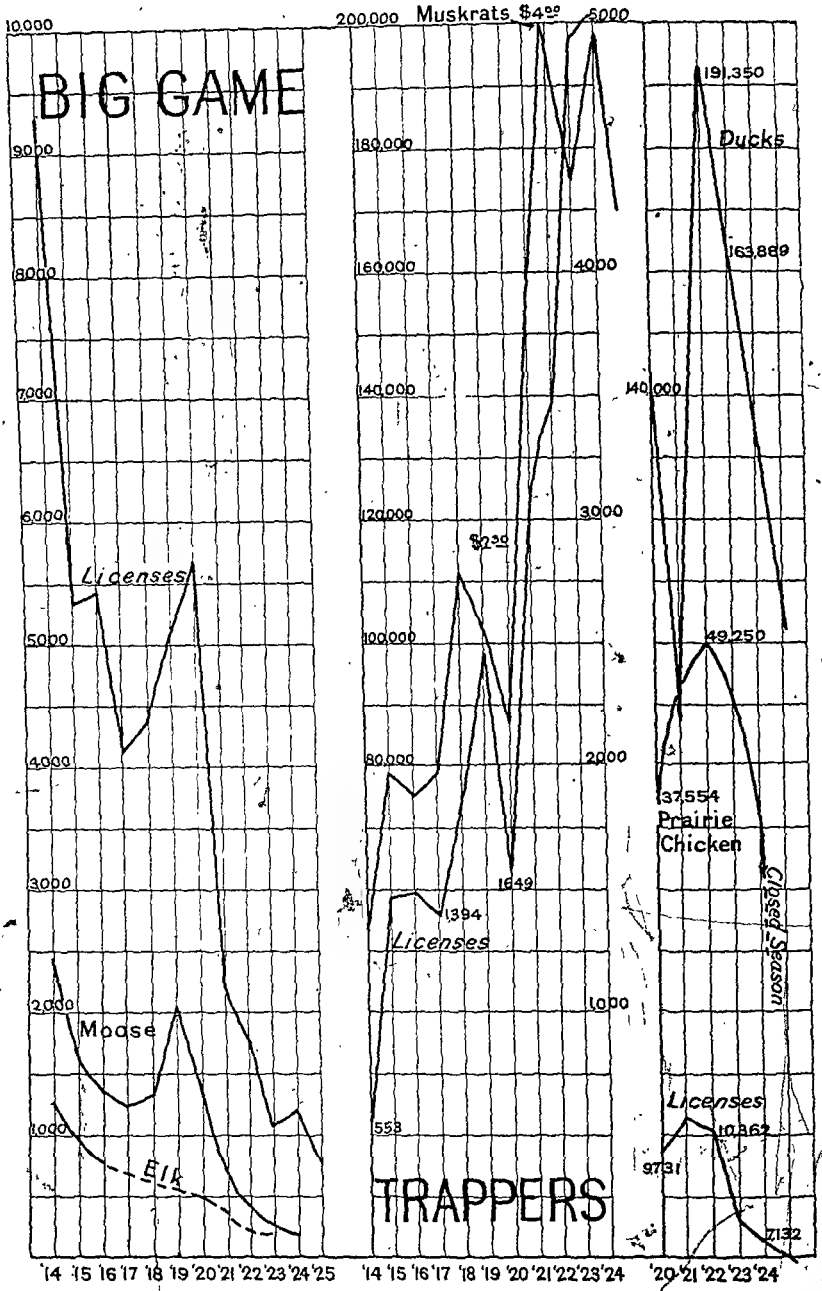
From data supplied by the Dominion Bureau of Statistics.

FUR CATCH IN MANITOBA, 1923-1924

Kind	Number of Pelts	Total Value	Average Value Per Pelt
Badger	1,312	$ 3,239	$ 2.47
Bear, Black	965	8,416	8.72
Bear, White	29	917	31.62
Beaver	14,806	231,058	15.61
Coyote or Prairie Wolf	4,585	50,671	11.05
Ermine (Weasel)	63,054	51,379	.81
Fisher or Pekan	648	43,583	67.26
Fox, Patch or Cross	3,326	123,535	37.14
Fox, Red	9,310	132,430	14.22
Fox, Silver	698	68,798	98.56
Fox, Blue	8	633	79.13
Fox, White	1,075	43,108	40.10
Fox, Kit	161	628	3.90
Lynx	4,939	91,695	18.57
Marten or Sable	4,143	98,736	23.83
Mink	28,120	249,598	8.88
Muskrat	554,716	578,445	1.04
Otter	2,606	81,349	32.22
Rabbit	9	1	11
Raccoon	253	1,106	4.37
Skunk	14,955	23,555	1.58
Wild Cat	2	5	2.50
Wolf	1,932	23,796	12.32
Wolverine or Carcajou	101	1,664	16.48
Domestic Cat	25	9	.36
Total	711,778	$1,980,354	

FUR CATCH OF CANADA, 1922-1923

Kind	Number of Pelts	Total Value of Pelts	Average Value per Pelt 1922-1923	Average Value per Pelt 1921-1922
Badger	2,900	$ 3,553	$ 1.23	$ 1.04
Bear, Black	6,423	63,820	9.94	10.81
Bear, Brown	702	5,768	8.22	9.17
Bear, Grey	18	129	7.17	...
Bear, Grizzly	93	1,712	18.41	16.36
Bear, White	313	6,856	21.90	18.30
Bear, Unspecified	225	3,375	...	12.00
Beaver	175,275	2,461,667	14.04	18.38
Coyote	32,998	353,807	10.72	9.07
Ermine (Weasel)	362,236	219,306	.61	.52
Fisher or Pekan	3,976	227,667	69.84	74.45
Fox, Cross	9,121	397,829	43.62	50.30
Fox, Red	42,739	564,998	13.22	12.46
Fox, Silver	6,865	774,348	112.80	147.42
Fox, Blue	513	31,543	61.47	70.82
Fox, White	77,135	3,015,348	39.09	39.70
Fox, Other	569	2,306	4.05	6.12
Lynx	17,317	332,061	19.18	20.38
Marten or Sable	45,579	1,045,810	22.95	20.62
Mink	159,626	1,371,411	8.59	9.00
Muskrat	3,846,161	5,077,886	1.32	1.54
Otter	10,676	259,568	24.32	27.26
Rabbit	1,013	177	.17	.15
Raccoon	24,520	95,136	3.88	3.71
Skunk	117,840	236,081	2.00	2.35
Wild Cat	1,129	3,781	3.35	4.16
Wolf	7,839	124,344	15.86	10.17
Wolverine or Carcajou	1,839	16,057	15.63	17.54
Total	4,950,000	$16,750,000		


BIG GAME
10,000
9000
8000
7000
6000
5000
4000
3000
2000
1000
Licenses
Moose
Elk
200,000
180,000
160,000
140,000
120,000
100,000
80,000
Muskrats $4.00
$2.35
1649
1394
Licenses
553
TRAPPERS
6000
4000
3000
2000
1000
191,350
Ducks
163,889
140,000
49,250
37,554
Prairie
Chicken
Closed Season
Licenses
10,362
9731
7132
'14 '15 '16 '17 '18 '19 '20 '21 '22 '23 '24 '25
'14 '15 '16 '17 '18 '19 '20 '21 '22 '23 '24
'20 '21 '22 '23 '24

PART III

GAME RESOURCES

Game is not measured in figures or amounts, but rather in sport, recreation, and gratification in preserving the natural heritage for future generations. Good sportsmanship, respect for game laws, and the setting aside of 7,979 square miles as provincial game preserves has made Manitoba the sanctuary of the elk and the breeding ground of ducks and geese for the North American continent. The elk herd in the Riding Mountains, once reduced to 400 or 500, has within the last eight years increased to over 2,000, due to closed season and good supervision. The original Wainwright herd of 635 buffalo has increased to 10,000. The natural increase is now over 2,000 a year, and this year a large portion of the herd had to be shipped north. No doubt other game would "come back" if given a little protection. Jumping deer are increasing in numbers, and moose will no doubt increase also with the protection now afforded.

Bag limits have made it possible for the ducks to remain fairly constant, the annual "bag" for the past five years varying from 140,000 to 190,000, the last year being above the average, viz., 166,401. The same may be said of geese and grouse (see game reports, p. 52). Grouse vary for other causes than sport—natural enemies and weather. This year floods in June brooding season prevented the spring hatch in the Red River basin and necessitated a temporary closed season, but this quick and flexible operation of the Game Act is a great protection and means conservation—quite different from the days of the passenger pigeon. This desire to "make game last" is simply sport thrift and recreational solvency: enjoying the interest which is the natural increase, but conserving the capital or breeding stock.

The Sheriff Inkster Preserve of 2,000 square miles is the largest duck breeding marsh on the continent and the annual duck migration is testimony of its success. But we must control the crow menace if the future of this breeding ground is to be maintained.

Whistling swans, which were rapidly disappearing before they were given absolute protection under the Game Act, are returning to Manitoba in larger numbers every year. In mid-April, 1925, a flock of about 900 were seen at Whitewater Lake, and small flocks were reported during migrations at other points in southern Manitoba.

The most majestic of all birds, the whooping crane, visited the Shoal Lake Bird Sanctuary this year and may come back in former numbers.

The Migratory Birds' Convention Act has done much to stop spring shooting of game birds south of the line on their northward flight to their breeding grounds.

So it seems reasonably possible to make the game last and to preserve the natural heritage of our wild life and restore the sport of pioneer days.

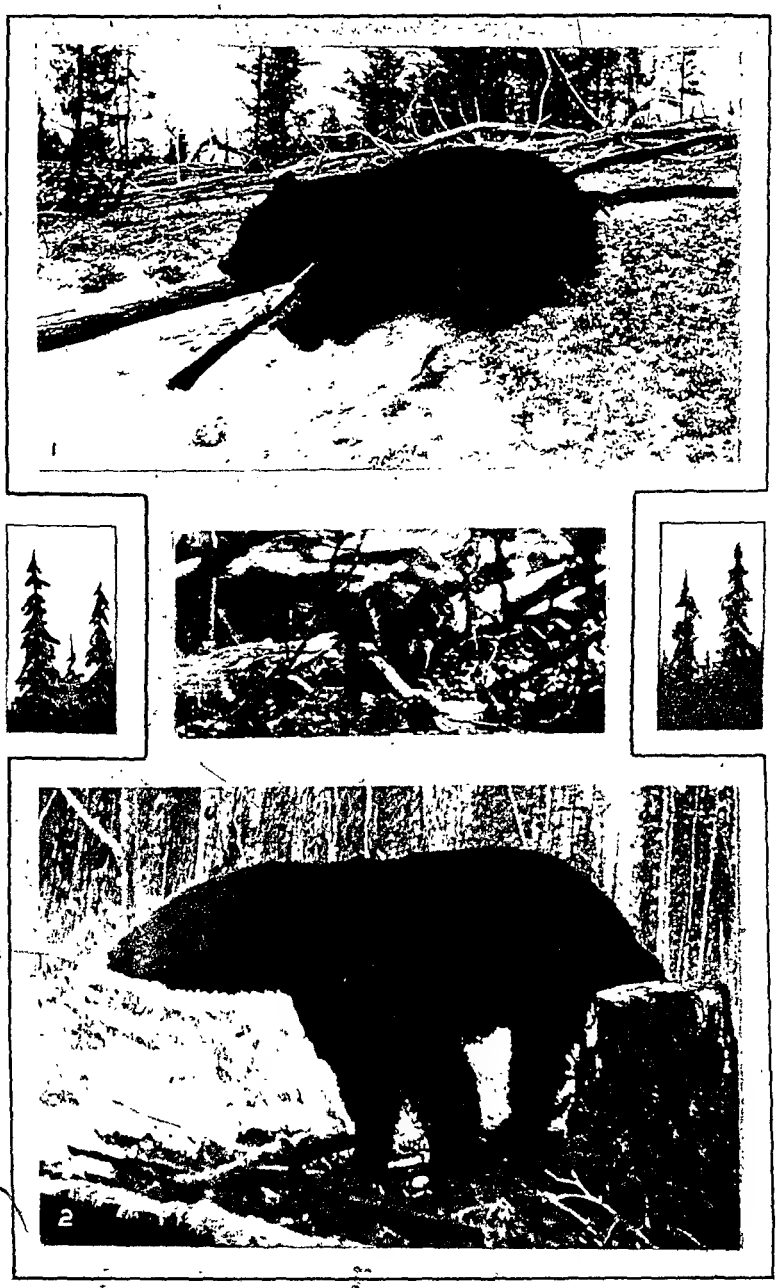
Only since 1920 have detailed returns been made of the annual bag of game birds, but during these six years 53,315 licensed hunters have bagged a million ducks, a third of a million grouse, and six thousand geese, and during the last ten years 45,395 big game hunters have brought down 12,871 bull moose, 3,616 elk and 6,000 deer.

GAME PRESERVES.

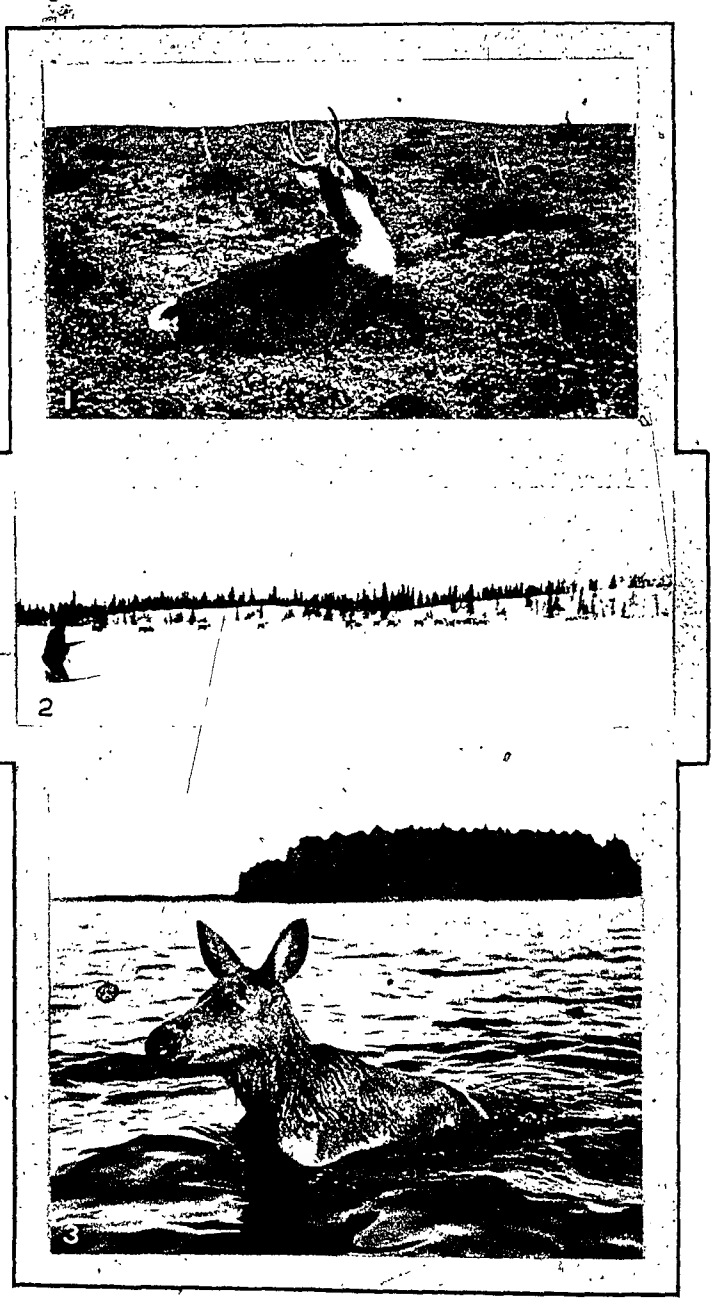
The possibility of bringing back the game birds of pioneer days, of extending the range of grouse, and of introducing new game birds, has been fully demonstrated in this province. The reports of the supervisors of the Riding Mountain Game Preserve and of West Shoal Lake Sanctuary herewith appended show how quickly the "come-back" of game can be effected if properly protected. Several farmers have recently followed the lead of the older east and established private preserves on their property. One at Morris drew seventy-five nesting mallards the first season, and the slough was dark with ducks during the fall migration and well on into November. A little grain worked wonders. Many American farmers have found it profitable to establish a feeding ground in the fall and charge shooting rights.

More often the private sanctuary is true to its name: a hobby of the lover of wild life and its preservation. At the Kinalmeaky Farm mallards nested this summer within a few yards of the farm yard. Island Lake at Portage is becoming a noted rendezvous for Canvas-backs and Mergansers.

Settlement does not drive birds away; it allures. The Pinnated Grouse has followed the grain growers on the prairie. It was first reported in Manitoba in 1881, when grain growing began along the southern boundary, and it has now spread over the entire wheat belt. The old hunters say the best place to get "prairie chicken" is from an old barn or stock. The farmer is by circumstance a friend of game, for he unconsciously feeds and protects, and this accounts for the success which has followed the introduction of the Hungarian partridge and the Chinese pheasant. The circumstance was favorable: scattered settlement, broad acres, natural protection and plenty of food. The beautiful Ring-necked Pheasant has increased enormously in Minnesota and North Dakota, and is now the charm of the wood lot and poplar bluff. It is spreading northward, as the Pinnated Grouse did forty years ago, and without menace to the native grouse. In



(1) A Black Bear Near Seal River, Lat. 58
(2) The Last Grizzly—Caught Near The Pas, 1909



(1) Barren Land's Caribou, Lake Nueltin
(2) A Herd of Caribou on the Churchill River, 1924
(3) A Young Moose Coming Ashore

fact the Pinnated Grouse has interbred with the Northern Sharp-tailed Grouse and produced a virile hybrid. The success which Alberta has had with the Hungarian partridge seems likely to be duplicated in Manitoba, for the birds liberated by the Game Protective League two years ago have increased and spread across the province.

In contemplating our vast breeding marshes north of 53, one thing has escaped attention. There is no wild rice north of Latitude 53° 30'. The reason for this seems to be that the ducks and geese are coming south in the rice season, and so there are no agencies to carry it farther north, except the tedious process of time. There is no reason why wild rice would not grow as far north as Latitude 56, where climate and water conditions are practically the same. What is shown on the map as Moose Lake and Cedar Lake is a vast marsh, twenty miles wide and ninety miles long, where the voyageur expects wild rice but finds none. It is only necessary to sow it to start it growing. Enough could be sown from an airplane in a few trips to make the largest rice lake on the continent, and airplanes pass over this lake daily during the summer from their base at the north end of it (Mile 42, H.B.R.). The same is true of Saskaram Lake west of The Pas, and of Playgreen Lake, Cross Lake, and the hundreds of reedy lakes north of 54. Small quantities were sent up last fall for trial, and plans are being made to obtain sufficient wild rice to plant the north next October.

With the natural spread of food supply, of trees and protection, our game birds may be expected to increase, rather than to disappear. Our better control over predatory enemies of game, our ever increasing game preserves (now 7,989 square miles), flexible game laws, responsive to the fluctuation in the game, makes it possible to conserve our wild life for future generations. The only danger seems lack of supervision or apathy of the public to the value and responsibility of our heritage.

REPORT ON THE RIDING MOUNTAIN GAME PRESERVE

There are at the present time approximately 2,000 elk on the Reserve. In December, 1924, Mr. May took the photo herewith, showing over 1,000 in one herd on Kennice Plains. At the same time, as we had a closed season for four or five years, there is not the increase that might be expected. This may be due to the lack of proper protection, there being more or less deer killed through the summer and early winter months.

A few years ago a number of these animals were being shot for their teeth. It has been reported to me that as many as eight bodies were found within a radius of two miles with their teeth extracted. The matter was taken up with the local Elk Lodge here and a resolution forwarded to their Grand Lodge advocating

that the Elk teeth be discarded as an emblem. This resolution has been approved of by the Grand Lodge and will aid in preventing further slaughter of these animals.

As this Reserve is practically the last home of the elk in Manitoba, I would recommend that increased protection be given them. We have a very wide range of wild life and with proper protection this should increase.

In the matter of moose. None of these can be shot on the Reserve under permit now that it is a game preserve. They are increasing, but at that they should be still protected. There are no doubt some killed in contravention of the regulations.

In regards to jumping deer, this species is on the increase on this Reserve.

In the matter of bear, this last few years they have been increasing and are getting quite numerous in some places, but not a menace and should be protected.

FRED SMITH,
Supervisor.

Dauphin, Oct. 15, 1925.

REPORT ON THE WEST SHOAL LAKE SANCTUARY

(36 sections, T. 15 and 16, R. 2 W.)

For ten years prior to making West Shoal Lake a bird and game sanctuary in 1924, a careful estimate had been kept of the number of swan and geese stopping in this lake during the spring and fall migration, and the number of ducks staying all summer.

The spring flight of Canada geese had steadily diminished to about 2,000 to 2,500, and whistling swans to 45, while in the fall the number of these birds had declined from thousands to a few hundred.

The spring flight of other varieties of geese, such as snow and blue geese, was always irregular, the flight of 1914 was unusually large, this being the first time that blue geese had been noticed, the total number during the spring, principally blue geese, exceeded 75,000. In the intervening years up to 1924 the flight of these birds was insignificant, numbering around 2,000, with some years practically none. As to ducks, only a few hundred stayed in and around the lake during the summer.

In the spring of 1924, following the formation of the sanctuary, Canada geese doubled in numbers, and there was a very heavy flight of snow and blue geese, not less than 75,000 birds. During the fall of 1924 the number of Canada geese had increased to 7,000 or 8,000. The number of ducks taking refuge in the sanctuary during the latter half of October, 1924, exceeded ten thousand.

The spring of 1925 the Canada geese had increased to 7,000 to 8,000, with an exceedingly heavy flight of snow and blue geese variously estimated at 100 to 150 thousand.

The fall of 1925 showed the greatest number of Canada geese seen in this area during the past 15 years. It was also interesting to note that four of these geese stayed in the lake all summer. These were increased to seventeen early in August, whether the result of nesting or the return of another flock from further north we are unable to say. If the result of nesting, then it would be the first time since 1883.

The ducks began to collect in the sanctuary early in the shooting season of 1925, and by October 1st there were scores of thousands; it would be impossible to estimate the numbers. These ducks would leave the lake late in the evening, feeding, some of them going as far south as Eli and Dakota Siding, and return to the sanctuary.

(Signed) MAJOR J. PROCTOR,
Woodlands, Man.

January 26, 1926.

MANITOBA LAWS RELATING TO FUR ANIMALS

Open Seasons—

North of fifty-third parallel—	*Dates inclusive*
Fisher, marten, mink	Nov. 1-Mar. 31
Otter, beaver	Nov. 1-Apr. 30
Muskrat	Mar. 15-May 15
Fox, lynx	Nov. 1-Feb. 28
South of fifty-third parallel—	
Fisher, marten, mink	Nov. 1-Mar. 31
Otter, beaver	No open season
Muskrat	Mar. 15-Apr. 30
Fox, lynx	Unprotected

Prohibited Methods—

Use of poison or dog in taking or hunting fur animals is prohibited. Unlawful to shoot or spear muskrats or to destroy muskrat houses. Beaver houses and dams protected, except under permit to protect property.

Licenses—

Trapping: Resident, $2; non-resident Canadian citizen, $50; non-resident alien, $200; issued by minister of agriculture and immigration. Permission of owner required to trap on cultivated or inclosed lands of another. Licensee must return his license

BIG GAME

Year	No. of Permits Issued	No. of Permits Returned	Moose Male	Elk Male	Deer Male	Caribou Male
1914	9163		2447	1279	763	27
1915	5340		1573	948	584	22
1916	5384		1423	795	456	41
1917	4207		1257	1	407	31
1918	4236		1358	Closed	571	18
1919	5124		2022	Season	606	28
1920	5623	4874	1277	593	702	20
1921	2246	2004	622	Closed	569	32
1922	1794	1555	390		528	21
1923	1104	978	245	Season	374	12
1924	1174	1030	257		410	12

GAME BIRDS

Year	Licenses Issued	Licenses Returned	Geese	Ducks	Ruffed Grouse	Prairie Chicken	Other Grouse	Jack Snipe	Plover	Yellow-legs
1920	10731	7177	483	141452	6058	37554	635	497	339	122
1921	10765	7961	570	87235	17224	49250	1517	977	308	172
1922	10362	7743	764	191350	28255	49053	1354	658	131	115
1923	8345	6434	921	163889	20286	47077	1509	948	170	123
1924	7132	5861	816	166401	12224	31106	849	817	110*	.....

*Closed Season since 1924

and make a report during the month of June, showing the number of each kind of animals taken. *Fur trading:* Non-resident trader, $50; travelling fur buyer, $25; resident raw fur merchant or dealer, $10; resident travelling agent, $10; issued by minister. Licensees are required to keep record and to make monthly reports of furs handled. *Fur dressing and tanning:* $10; issued by minister. Licensee must keep records and report to the chief game guardian on or before the 10th of each month the number of royalty pelts handled and the name and address of person forwarding or delivering the skins.

Possession and Sale—

Possession of unprime skins prohibited. Unlawful to purchase or sell the skins of muskrats that have been speared or shot. Any person purchasing or acquiring pelts from a trapper must ascertain that he holds proper trapping permit and at the same time record his name and the number of his permit. Unlawful to purchase, barter, or trade the pelt of a fur animal taken during the close season (does not apply to imported skins). No other restrictions on skins legally taken.

Shipment and Export—

Export prohibited of unprime skins or skins on which royalty is payable unless such skins have coupons attached to show royalty paid; each shipment must be accompanied by a permit procured from minister upon surrender of counterpart of royalty coupon, and have attached a declaration of the number and kinds of skins contained, and also set forth that counterfoils of royalty coupons are attached as required. Shipment or removal from province prohibited except by express or mail. No other restrictions on skins legally taken. Export prohibited of live protected animals (except ranch-bred animals) except under permit from minister of agriculture and immigration (permit must accompany shipment to destination); fees, for black or silver fox, $100; for other fox, $15; for otter, $25; for beaver, $5; for mink, fisher, or marten, $1; for muskrats, $2 a dozen or fraction thereof.

Propagation—

License (fee, $5) must be obtained from the minister to operate a fur farm. Licensee, on or before the first days of January and July, must make verified reports showing the number, species, age, and sex of the animals on hand, from whom procured, and the number which have died during previous six months, with cause of death.

Bounties—

Timber wolf, $5; other wolf, $2; half is refunded to municipality by provincial treasurer.

BIBLIOGRAPHY OF THE FUR AND GAME RESOURCES OF MANITOBA

1795—Samuel Hearne—A Journey for the H. B. Company, 1769-72. 4to, 458 pp., 9 plates, 5 maps. London, 1795.

1807—Alexander Henry's Journal of a Red River Trading Post.

1823—Sir John Franklin's Diary and Natural History appendix by Dr. Richardson, et al. 768 pp., 30 plates, 4 maps. London, 1823.

1825—William H. Keatings' Narrative of Stephen Long's expedition to Lake Winnipeek, 1823. Natural History appendix, pp. 156, 1 map. London.

1825—Richard Harlan, Fauna Americana, 320 pp.

1829—John Richardson, Fauna Boreali-Americana, 23 pl.

1860—Henry Youle Hind. Narrative of Canadian Red River Expedition of 1857, 2 vols. London.

1874—J. A. Allen, Notes on Natural History of Dakota. Proc. Boston, Soc. Nat. Hist. Mammals, pp. 33-43.

1875—George M. Dawson, Report of the Boundary Commission.

1876—Robert Bell, Report on the country west of Lakes Manitoba and Winnipegosis. Notes on Mammals, pp. 24-56.

1877—Elliot Coues, Fur-bearing Animals, 20 plates.

1822—John Macoun, Manitoba and the Great Northwest. Notes on Mammals, pp. 325-353.

1885—Miller Christy. Notes on the Mammals of Manitoba. Natural History Journal, Vol. IX, May 15, 1885, pp. 67-74.

1886—Ernest E. T. Seton. The Mammals of Manitoba. Pub. in Manitoba Free Press, May 28, 1886.

1892—C. Hart Merriam. The Geographical Distribution of Mammalia in North America. Proc. Biol. Soc. Washington, Vol. VII, p. 1-64.

1892—J. B. Tyrell. Report on North-western Manitoba. Ann. Rep. Geol. Surv. Canada Vol. V, p.235.

1892—Henry Poland. Fur-bearing Animals in Nature and Commerce. Statistics of fur returns, pp.22-37.

1893—C. C. Nutting, Rep. Zool. Expl. Lower Saskatchewan, Bull. Nat. Hist. University of Iowa, Vol. II, pp.235-293.

1902—Edward A. Preble, A Biological Investigation of the Hudson Bay Region, N. Amer. Fauna No. 22, Div. Biol. Surv. U.S. Dept. Agr. 140 pp., 14 plates.

1906—Ernest Thompson Seton. The Smallest of Beasts of Prey. Western Sportsman, pp. 316-18, Dec. 1906. Winnipeg.

1909—Ernest Thompson Seton. Life Histories of Northern Animals, 2 vols., 68 maps, 560 drawings. A most complete natural history of our mammals. Charles Scribner's Sons. New York City. 1909.

1920—Sir William Schooling. The Hudson's Bay Company, 1670-1920.

1921—C. Gordon Hewitt. The Conservation of the Wild Life of Canada, 343 pp., 23 plates, 15 maps and charts. Charles Scribner's Sons, New York.

1924—Raymond Thompson. The Wilderness Trapper. The Hunter Trapper Co., Columbia, Ohio.

1921—Agnes C. Laut. The Fur Trade of America, 342 pp., 36 plates. An up-to-date outlook on the vogue of furs. Macmillans.

1923—Fox Ranching in Canada, Bull. No. 12, New Series, Dept. of Agr., Ottawa.

1925—F. H. Kitto. Natural Resources of Manitoba. Natural Resources Intelligence Service, Ottawa.

1925—C. S. Elton. Plague in Wild Mammals. Journal of Hygiene, Oct. 12.

1925—A. C. Bent. Life Histories of North American Wild Fowl, Part I—Wild Geese. Smithsonian Institute, Washington, D. C.

Current Periodicals and Bulletins on Fur Trade and Fur-farming.

The Northern Fur Trade—Winnipeg.
Published monthly by The Northern Fur Trade Publishing Company, 417 Somerset Block, Winnipeg.

Raising Muskrats, Beavers and Minks for Profit. (Hodgson.)
Fur Farming: The Weasel Family. (Hodgson.)
Published by the Fur Trade Journal, Oshawa, Canada.

Muskrat Farming on Swamp Land.
Published by E. J. Farnum, Iron Mountain, Michigan.

Skunk Culture for Profit. (Holbrook.)
Skunk Development Bureau, Chicago.

The Silver Fox in Captivity and the Silver Fox Industry.
Published by the Canadian Silver Fox Breeders Assoc., Summerside, P.E.I., Canada.

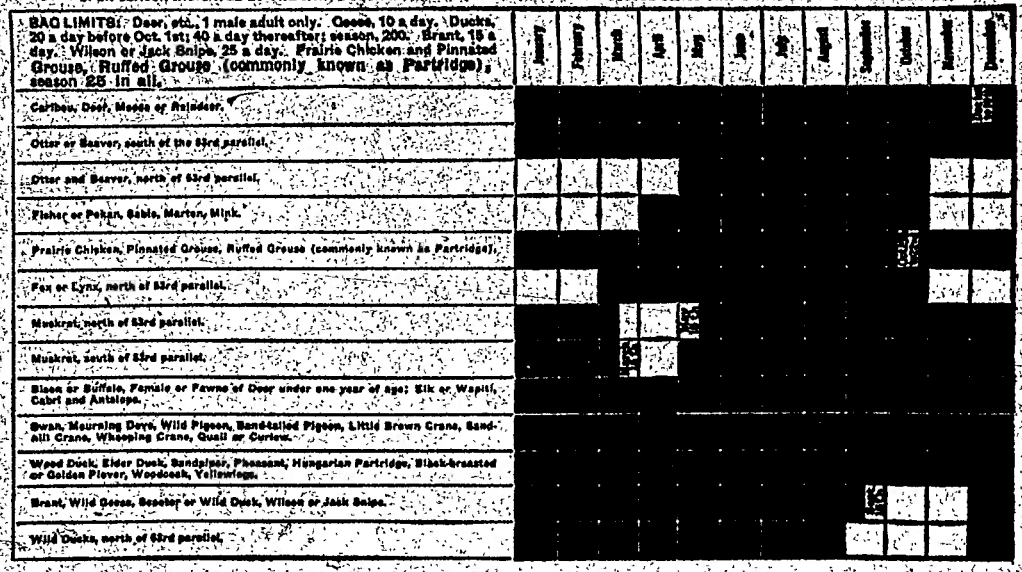
Fox Ranching in Canada, Bull. No. 12, new series; and Rabbits, Bull. No. 28, new series.
Department of Agriculture, Ottawa.

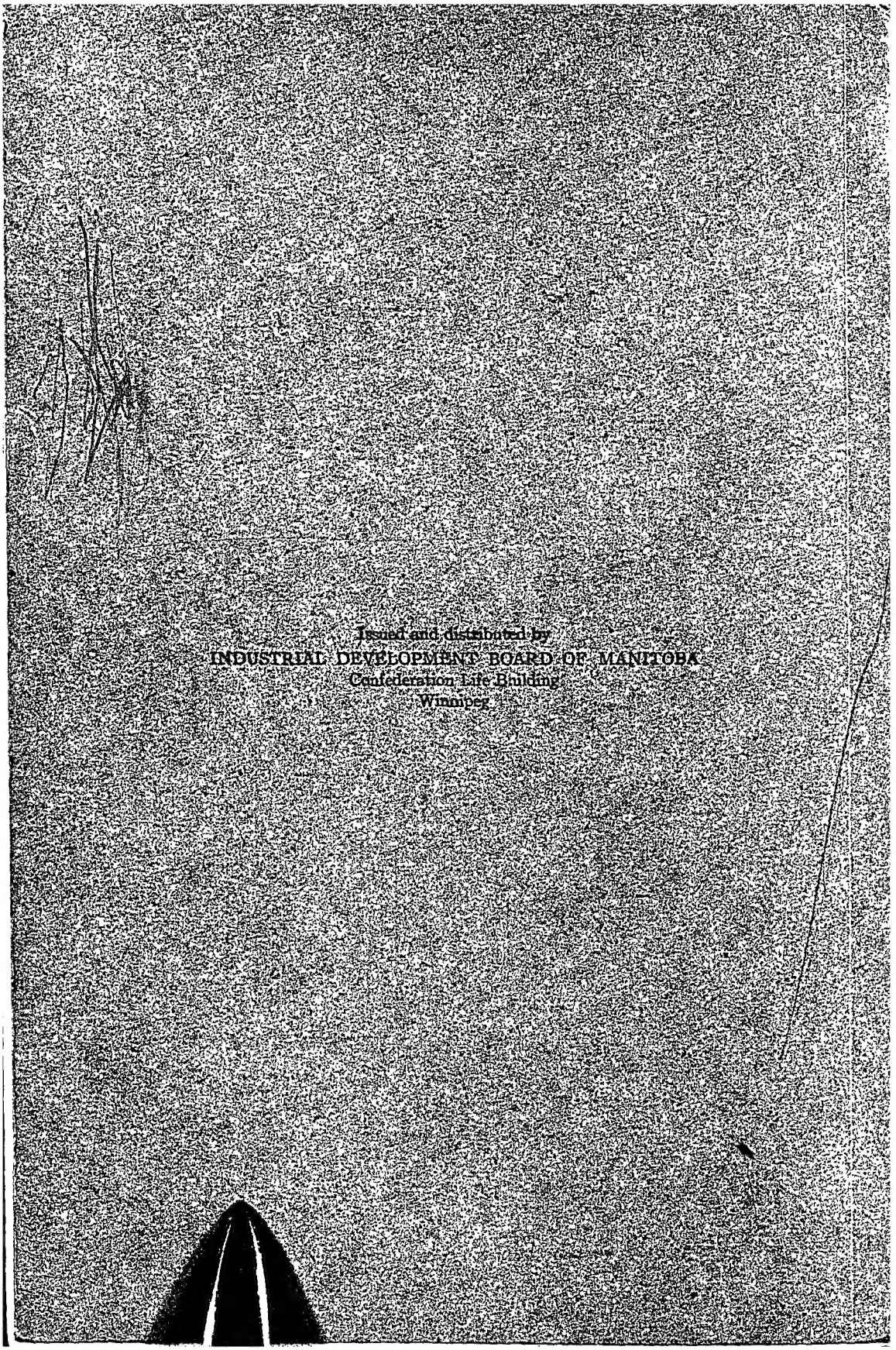
Silver Fox Farming, Bulletin 1151
Blue Fox Farming in Alaska
Beaver Farming and Beaver Habits
Economic Value of Skunks
Government Printing Offices, Washington, D.C.

Printing by Saults & Pollard Ltd.
Drawings by Natural Resources Intelligence Service and Prof. Jackson
Plates by Brigdens of Winnipeg Limited
British & Colonial Press Limited
Winnipeg

OPEN SEASON INDICATED BY THE WHITE SQUARES — CLOSED SEASON INDICATED BY THE BLACK SQUARES

BAG LIMITS: Deer, etc., 1 male adult only. Geese, 10 a day. Ducks, 20 a day before Oct. 1st; 40 a day thereafter; season, 200. Brant, 15 a day. Wilson or Jack Snipe, 25 a day. Prairie Chicken and Pinnated Grouse, Ruffed Grouse (commonly known as Partridge), season 25 in all.





Issued and distributed by
INDUSTRIAL DEVELOPMENT BOARD OF MANITOBA
Confederation Life Building
Winnipeg